The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 88, NO. 20 . . CHICAGO, ILLINOIS MAY 14, 1927

MASSIVE (ATELECTATIC) COLLAPSE OF THE LUNG, WITH ESPECIAL REFERENCE TO TREATMENT

REPORT OF AN ADDITIONAL CASE *

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Massive (atelectatic) collapse of the lung has been well defined by Sir John Rose Bradford [1] as "an unusual condition in which the lung, without the presence of any gross lesion such as bronchial obstruction, pleural effusion, etc., interfering with the free entry of air becomes airless to a greater or less degree."

The condition was first reported in 1890 by Pasteur [2] in connection with postdiphtheritic paralysis of the diaphragm. His observations were based on thirty-four such cases, and he was the first to apply the name "massive collapse of the lung." In 1908, in the Bradshaw Lecture, he again discussed the nature of massive collapse of the lung, in contrast with the scattered lobular atelectasis that follows obstruction of the bronchioles by secretion or foreign material. In 1914, he extended his studies of the condition and called attention to its occurrence as a postoperative complication of abdominal operations. He reported sixteen such instances occurring in 2,000 abdominal operations.

From then until the present time reports of isolated cases and studies of the condition have been published by numerous observers, chiefly Elliott and Dingley,[3] Bradshaw,[4] Crymble,[5] Bradford,[1] Briscoe,[6] Scrimger,[7] Elwyn and Girsdansky,[8] Regan,[9] Ritvo,[10] Holmes,[4] Scott,[11] and Jackson and Lee.[12] The study of Sir John Rose Bradford was in connection with war wounds, and it is this study which is mainly responsible for the renewed interest shown in the subject. Ritvo and Holmes gave especial consideration to the roentgen-ray observations in these conditions. They are of the opinion that many such conditions have been passed up by the radiologist as being due to pneumonia. Scott's complete study, in January, 1925, showed that, aside from war wounds, sixty-four cases had been reported, but only thirty-six in sufficient detail to permit analysis. To these Scott added four cases, all occurring after operation, and none showing material variation from these previously reported.

From a consideration of these reported cases it would seem that the condition manifests itself in two more or less distinct forms: one in which the respiratory symptoms predominate, and the other in which associated symptoms completely overshadow the chest condition and the collapse of the lung is discovered only incidentally during physical examination. In the first type the onset is usually quite sudden, within twenty-four hours after operation or trauma, with pain in the chest, dyspnea, and rapid pulse. Cyanosis may or may not be present. The fever at first is slight, but later usually goes as high as 102 F., and may even go higher. At the outset the sputum is scant, but later it becomes more profuse and is mucopurulent in character. It is never bloody or of the prune juice type. The white blood count is ordinarily somewhat higher than normal; instances have occurred in which the count was as high as 20,000.

In the second type, the pulmonary condition is overshadowed by other symptoms, and the atelectatic condition of the lung is discovered only as an incidental observation. In such cases there may be little if any embarrassment of respiration, or change in pulse rate or temperature.

Regardless of the type of involvement, the duration is usually from one to three weeks. The condition may terminate rapidly by sudden reinflation of the lung and reestablishment of respiratory function, or may require several weeks, reinflation occurring only in small areas at a time.

In very few instances does the condition itself prove fatal. Occasionally, however, some coexisting lesion may result in death. As a result, very few autopsies are recorded for study. In no available case, however, was there postmortem evidence of bronchial obstruction, pleural effusion or other lesions that might interfere with aeration of the lung. Small amounts of mucus have been found in the bronchi, but it is questionable whether these could have been sufficient to be considered as etiologic factors in the production of the lesion. Postmortem examination of the lung shows a state of massive atelectasis. Microscopically, the walls of the bronchioles and alveoli are collapsed, producing a solidification of the lung structure. Here and there a small rounded globule of air remains.

Radiographically, the conditions are quite characteristic. In its collapsed state the lung occupies a

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* Read before the St. Louis Medical Society, Oct. 19, 1926.

* From the radiology departments of St. Mary's Hospital and the City Hospital, St. Louis.

1. Bradford, J. R.: Oxford Loose Leaf Medicine **2**: 127, 1920.
2. Pasteur, W.: Internat. J. M. Sc., September, 1890, p. 242; Royal College of Physicians, Bradshaw Lecture, 1908; Brit. J. Surg. **1**: 537, 1914.
3. Elliott, T. R., and Dingley, L. A.: Lancet **1**: 1305, 1914.
4. Bradshaw, cited by Holmes, G. W.: Am. J. Roentgenol. **11**: 509 (June) 1924.
5. Crymble, P. T.: Brit. J. Surg. **5**: 363 (Jan.) 1918.
6. Briscoe, J. C.: Quart. J. Med. **13**: 293 (April) 1920.
7. Scrimger, F. A. C.: Surg. Gynec. Obst. **32**: 486 (June) 1921.
8. Elwyn, Herman; and Girsdansky, Joseph; Postoperative Massive Collapse of the Lung, J. A. M. A. **79**: 718 (Aug. 2) 1922.
9. Regan, J. C.: Lancet, **2**: 1222 (Dec. 13) 1924.
10. Ritvo, Max: Am. J. Roentgenol. **11**: 337 (April) 1924.
11. Scott, W. J. M.: Postoperative Massive Collapse of the Lung, Arch. Surg., part 1, **10**: 73 (Jan.) 1925.
12. Jackson, Chevalier; and Lee, W. E.: Ann. Surg. **82**: 364 (Sept.) 1925.

smaller space than it did when fully expanded, and becomes denser in character. The condition is not associated with pneumothorax, and the lung is not separated from the chest wall. To compensate for the space lost from collapse of the lung, the chest wall is

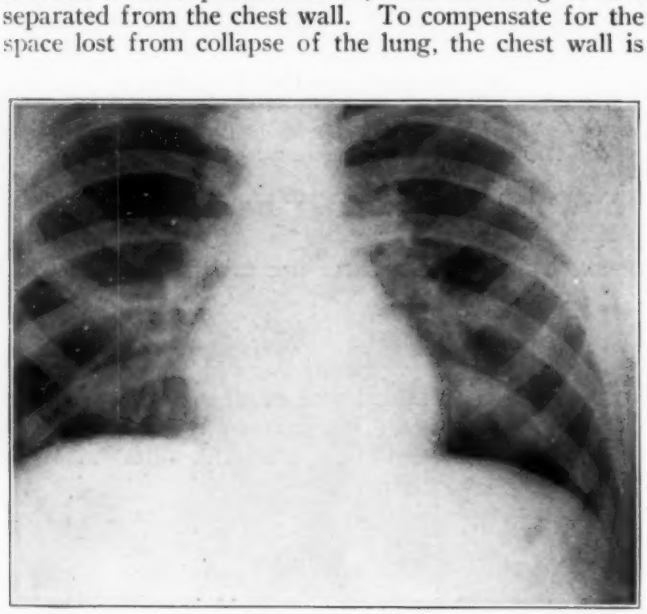

Fig. 1.—Normal appearance of chest before massive atelectatic collapse.

depressed; the heart and mediastinal structures are drawn over toward the involved side, and the diaphragm is pulled upward. When one considers the small size to which a normal lung may collapse in the presence of pneumothorax and its relative radiolucence when fully collapsed, it is surprising that in this condition a fully collapsed lung could acquire the marked density that it does. The radiographic density of the lung in massive collapse is fully as great as that seen in lobar pneumonia. This pronounced density must be due to an associated engorgement of blood vessels and lymphatics. It is homogeneous in character and has the same distribution as lobar pneumonia, rendering the differentiation from this condition at times somewhat difficult.

To the reported cases we have added four others, each with some unusual feature. Three have been already reported in detail.[13] The fourth will be reported in this paper, since it presents a complete record, and illustrates the efficacy of our method of treatment:

An observation previously made on the initial cases reported was found to have such an important bearing on the treatment of the disease that it was thought advisable to review briefly the conditions incident to the observation. A boy, aged 16 years, entered the hospital, May 9, 1926, with a history of having developed an aching pain in the left hip region following high jumping the day before. Roentgenographic examination of the hip failed to reveal any evidence of a pathologic change, but examination of the chest revealed the typical conditions of atelectatic involvement of the entire right lung: a dense, homogeneous consolidation, elevation of the diaphragm, and narrowing of the right side of chest. On account of the pain in the hip the patient could not sit up, so he was rolled over on a stretcher on his uninvolved side, collapsed side up, and placed before a fluoroscope. On resuming the position on his back, he experienced a sudden sharp pain in the chest, and broke out with beads of perspiration. Within two or three minutes after fluoroscopic examination had shown the right lung to be solid, a roentgenogram revealed almost complete aeration of the previously consolidated lung. Subsequent recovery was uneventful.

13. Sante, L. R.: Radiology **17**:1 (Jan.) 1927.

As it was felt that the change in position might have created some mechanical condition favorable for reinflation of the lung, the same procedure was tried in the next case to come under our observation. A white man, aged 30, entered the hospital for kidney fixation operation, which was performed under ethylene-ether anesthesia. Seven days after fixation of the right kidney, the patient complained of pain in the chest, which was followed by an elevation of the temperature to 102.8 F. Roentgenographic examination revealed massive atelectatic collapse of the entire left lung. Bronchoscopic examination was made, but no definite foreign body or obstruction could be found. A small quantity of mucus was evacuated, but without apparent effect. As reinflation was experienced in the previous patient after he had been rolled on the unaffected side, this procedure was undertaken in this case. To our surprise, reinflation occurred under direct fluoroscopic vision. The first portion to become aerated was the periphery; then a strip of lung tissue along the medial aspect followed. Simultaneously with reinflation of the lung, the mediastinal structures resumed their normal position and the interspaces became wider. After this, the condition progressed rapidly to reinflation, and with the exception of a small area of atelectasis in the upper lobe, the entire lung was reinflated in seven days.

The fourth case occurred in the service of Dr. Tainter at the St. Louis City Hospital, to whom I am indebted for this report. J. S., a white man, aged 23, entered the hospital, Jan. 6, 1927, following gunshot wounds of the abdomen, pelvis and left wrist. Under ether anesthesia, the abdomen was explored, January 7, for possible perforation, but none was found, and the abdomen was closed in the usual manner with drainage of subcutaneous tissue. A chest film taken before operation (fig. 1) did not show any evidence of a pathologic condition. Convalescence was uneventful until the fourth day after operation, when the patient complained of shortness of breath, and pain in the right half of the chest and in the region of the umbilicus. Physical examination at this time disclosed dense consolidation of the right lung; and since the temperature was somewhat elevated, 102 F., and the respiratory rate somewhat increased, 40 a minute, a diagnosis of postoperative pneumonia was made. Roentgenographic examination, however, revealed the characteristic condition of massive collapse, dense consolidation of the entire right lung, narrowing of the right side of the chest, approximation of the interspaces, and elevation of the diaphragm. The heart and mediastinal structure were displaced to the right side to such a degree that

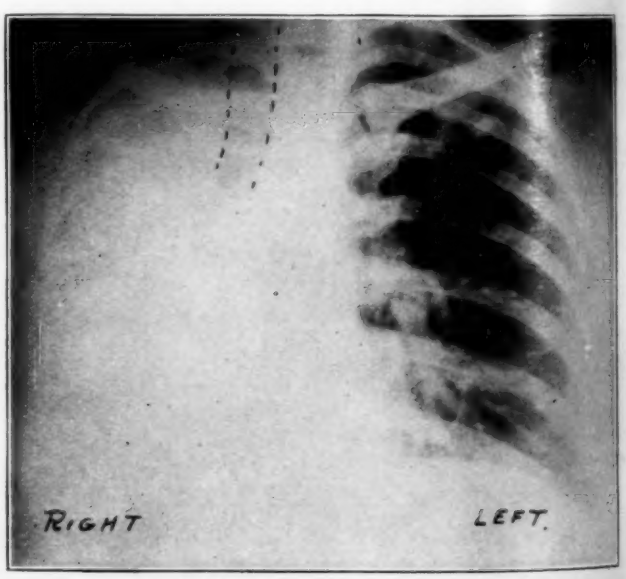

Fig. 2.—Four days after exploratory operation: complete atelectatic collapse of the right lung; retraction of trachea toward involved side; pulling over of heart until it is not visible on the left side. The heart beat was most clearly heard on the right side in the anterior axillary line. The density of the consolidation should be noted.

the heart was not visible to the left of the spine. The apex beat was best heard in the right anterior axillary line.

Fluoroscopic examination, January 19, still revealed the massive consolidation without apparent change. While under fluoroscopic examination, the patient was instructed to roll back and forth on the uninvolved side, and to cough. In this instance, as in all others previously reported, the collapsed lung expanded during fluoroscopic examination. Within a very few minutes, almost complete reinflation was established. The diaphragm on the right side was immobilized in a high position. During the process of reinflation, a small amount of mucus was coughed up and expectorated into a handkerchief. The amount did not exceed 5 cc., and could hardly have explained the obstruction or the excessive density of the lung in its collapsed state. It was globular and gray, and possessed the same gum-drop appearance described by Jackson and his co-workers. Reinflation proceeded without further difficulty. Although there was a tendency to further collapse on remaining quietly in bed, rolling the patient quickly reestablished inflation. This case is reported since it presents a complete radiographic record with roentgenograms before collapse, during the active stage of the disease, and reinflation; and since it further confirms

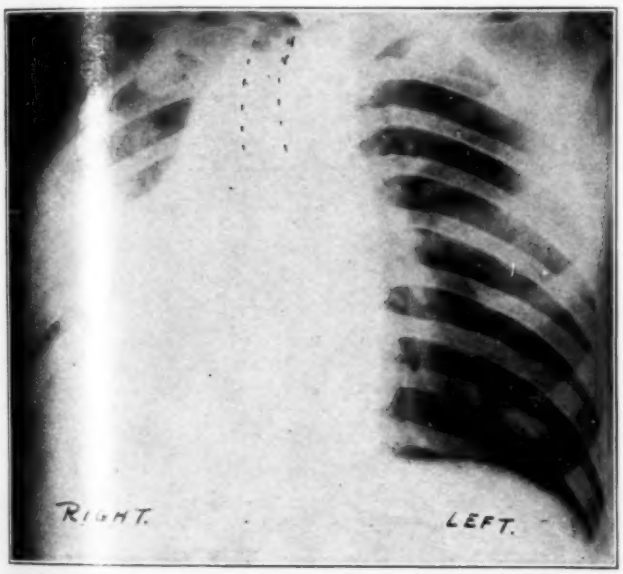

Fig. 3.—On rolling the patient backward and forward on the uninvolved side and causing him to cough, inflation began at once and was observed under the fluoroscope. Beginning aeration of the periphery. Simultaneously with reinflation, the trachea is the first structure to resume its normal position. The trachea is narrower than when displaced by the atelectatic lung. The left margin of the heart can just be seen reappearing beyond the spine. This film was taken about three minutes after the preceding one.

the efficacy of the treatment which I have previously recommended.

Since the original observation, I have been privileged to see another similar case, through the courtesy of Dr. J. J. Singer, in which massive collapse followed appendectomy. On carrying out the same procedure previously attended with success, namely, rolling the patient back and forth on his uninvolved side, without any other procedure or therapeutic aid, reinflation began.

A number of other cases have been brought to my attention in which this procedure was successful in reestablishing inflation of the lung. One submitted by Dr. Wm. G. Herrman showed pneumothorax in association with massive atelectasis. In this instance, likewise, the lung expanded when the patient was rolled on his uninvolved side. The case will be reported in detail by Dr. Herrman.

COMMENT

This observation at once suggests the usefulness of this method of treatment of the disease. Chevalier Jackson and his co-workers have shown that reinflation occurs following bronchoscopic removal of mucus from the bronchi. The process of reinflation is relatively slow, requiring several days, and often necessitates several bronchoscopic examinations. I have demonstrated that merely by rolling the patient over on his uninvolved side and causing him to cough, reinflation will occur immediately. Not every community has available expert

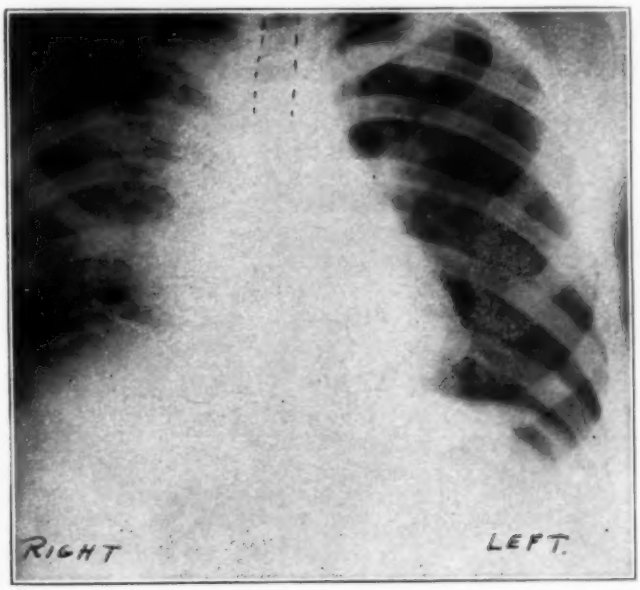

Fig. 4.—Three or four minutes later, without any further manipulation, the lung was seen to have become almost completely reexpanded. The mediastinal structures have resumed their place in the midline. The heart is now in its normal position. The right diaphragm was still high and was immobilized. Any tendency to recollapse must be guarded against by occasional changes in the position of the patient for the next few days.

bronchoscopic service. In the hands of those of limited experience the bronchoscopic procedure may be more dangerous than the condition which they attempt to

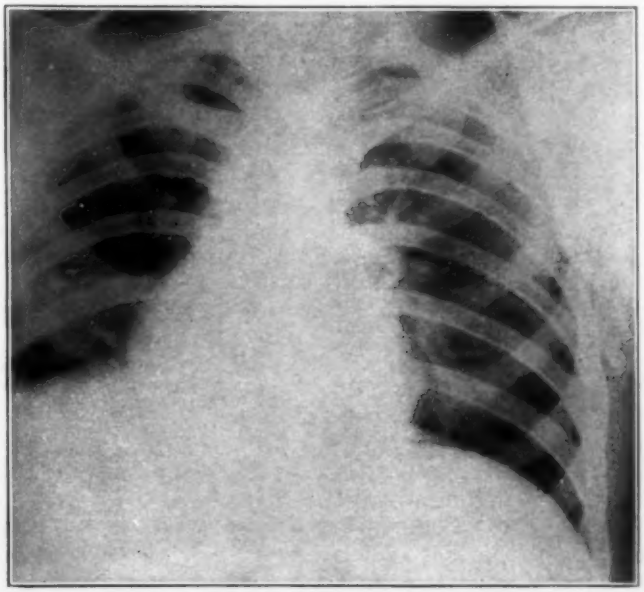

Fig. 5.—Several days later after complete reinflation. Even at this time the diaphragm is high and remains immobilized.

relieve. This simple method of procedure is available to all. It does not entail risk to the patient even if he were suffering from an actual lobar pneumonia and not a massive atelectasis, since it can be carried out in bed. In fact, it can be used as a means of differentiation between the two conditions.

The treatment of massive atelectatic collapse by this simple method naturally suggests the same method as a prophylactic measure. If this procedure will cure the condition after it is fully established, will it not be potent as a preventive measure against its occurrence? In all postoperative cases the patients should be rolled first on one side and then on the other, having their positions changed every few hours during the first few days following operation. The limited number of such cases that occur in the practice of any physician makes it impossible to establish definitely the true worth of such a method of treatment. For this reason, this observation is reported in the hope that others, encountering this condition, will try this method in an effort to establish its usefulness.

I have purposely refrained from a discussion of the possible causes of this condition. This subject has been covered in a previous article.[13]

SUMMARY

1. Massive atelectatic collapse of the lung is a definite clinical entity. This name should be reserved for cases following out the general clinical course herein mentioned in which there is collapse of the previously well aerated lung. This name is not entirely descriptive of the condition, and will probably give place in time to a more scientific name. The name "acute lobar idiopathic atelectasis" has been suggested by Dr. Seth I. Hirsch.[14] Congenital atelectasis should not be so considered.

2. It is characterized by sudden collapse of one or more lobes in a lung previously well aerated, from some unknown cause.

3. It is most frequently observed after abdominal operations, wounds, and other injuries such as fractures of the pelvis or femur, but may follow apparently trivial injuries.

4. Roentgenographically, there is a dense consolidation corresponding to one or more lobes or to an entire lung, rather homogeneous in character and resembling consolidation from pneumonia. The narrowing of the chest on the involved side, the approximation of the interspaces, the elevation of the diaphragm and the drawing over of the heart and mediastinal structures, make the condition readily diagnosable.

5. The cause is not known, but it seems most probable that some injury or insult to the region of the vagus supply produces a reflex action on the bronchioles, permitting their temporary collapse. Once approximated, the walls of these bronchioles are held in apposition by cohesion, collapse of the lung rapidly following, owing to absorption of the entrapped alveolar air by the circulating blood. Relief of the obstruction results in sudden reinflation of the lung.

6. The treatment is simple and consists in rolling the patient back and forth on the uninvolved side. No other therapeutic agent is necessary. This simple procedure has, in all instances in which it has been used, proved successful in promptly reestablishing aeration of the lung. Jackson[12] and his co-workers[15] have reported reinflation after repeated bronchoscopic removal of mucus from the bronchi. My procedure seems more simple, is available to all, and does not carry any risk to the patient. This suggests the possible prophylactic value in postoperative treatment of changing the position of the patient from one side to the other repeatedly during the first few days after operation.

Metropolitan Building.

14. Hirsch, S. I.: Personal communication to the author.
15. Hearn, W. P., and Clerf, L. H.: Ann. Surg. **85:** 54 (Jan.) 1927.

THE MECHANISM OF THE GALLBLADDER AND ITS RELATION TO CHOLELITHIASIS *

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It is generally agreed that bile from the gallbladder is delivered into the intestine after the ingestion of food,[1] but opinions differ widely as to the degree of evacuation and the mechanism involved.[2]

There are two views as to the mechanism; one, most commonly held, that emptying is a passive process depending on external pressure [3] and elasticity of the viscus;[4] the other, that the contents of the gallbladder are forced out by the action of its musculature.[5] There are two views also as to the degree of emptying of the gallbladder. Some contend that it is never completely empty,[6] and others that its entire contents may be evacuated following a meal,[7] especially of fat.[8]

There is further difference of opinion as to the relationship between the gallbladder and the sphincter of the common bile duct. The generally accepted view is that there is some reciprocal action by which the gallbladder contracts at the same time that the sphincter relaxes.[9] Work done in this laboratory,[10] however,

* From the Laboratory for Surgical Research, Medical School of Harvard University, and the Surgical Clinic of the Peter Bent Brigham Hospital.

* Read before the Clinical Congress of the Connecticut State Medical Society, New Haven, Sept. 23, 1926. A large part of the technical work of this research was done by my assistant, William F. Krause.

1. Milliken, G., and Whitaker, L. R.: The Clinical Use of Sodium Tetraiodophenolphthalein for Cholecystography, Surg. Gynec. Obst. **40:** 646-653 (May) 1925. Whitaker, L. R.; Milliken, G., and Vogt, E. C.: The Oral Administration of Sodium Tetraiodophenolphthalein for Cholecystography, Surg. Gynec. Obst. **40:** 847-851 (June) 1925. Boyden, E. A.: The Effect of Natural Foods on the Distention of the Gallbladder, with a Note on the Change in Pattern of the Mucosa as It Passes from Distention to Collapse, Anat. Record **30:** 333-361 (Aug.) 1925. Whitaker, L. R.: Experiences with Cholecystography, Including Observations on the Function of the Gallbladder, J. A. M. A. **86:** 239-243 (Jan. 23) 1926. Boyden, E. A.: A Study of the Behavior of the Human Gallbladder in Response to the Ingestion of Food, Together with Some Observations on the Mechanism of the Expulsion of Bile in Experimental Animals, Anat. Record. **33:** 201-225 (Aug.) 1926. Whitaker, L. R.: The Mechanism of the Gallbladder, Am. J. Physiol. **78:** 411-436 (Oct.) 1926.

2. The discovery that feeding would produce emptying of the gallbladder in a cat was first made by Boyden, who noted, when examining the gallbladders of a large number of cats for anatomic variations, that in many cases in which the animals had been digesting when killed, the vesicle was collapsed. This led him to try the effect of feeding. Egg yolk and cream produced complete collapse; meat, partial collapse, and rice had no appreciable effect. (Boyden, E. A.: The Gallbladder in the Cat: Its Development, Its Functional Periodicity, and Its Anatomic Variation as Recorded in Twenty-Five Hundred Specimens, Abst. Anat. Record **24:** 388, 1923.) Unaware of these observations the writer and his co-workers at the Peter Bent Brigham Hospital, while working with cholecystography, first noted the effect of food, especially fat, in emptying the human gallbladder.

3. Winkelstein, A., and Aschner, P. W.: Experimental Studies on the Entrance of Bile into the Duodenum, Am. J. M. Sc. **169:** 679-686 (May) 1925.

4. Copher, G. H.; Kodama, S., and Graham, E. A.: The Emptying of the Gallbladder, J. Exper. Med. **44:** 65-73 (July) 1926. Kodama, S.: A Model to Simulate the Mechanism of Emptying of the Gallbladder, Am. J. Physiol. **77:** 385-388 (July) 1926.

5. Whitaker, L. R., and Boyden, E. A.: Observations on the Function of the Gallbladder, abstr. Am. J. Physiol. **76:** 199 (March) 1926. Whitaker, L. R.: Observations on the Function of the Gallbladder, abstr. Boston M. & S. J. **194:** 373-375 (Feb. 25) 1926. Boyden, E. A.: Observations on the Physiology of the Gallbladder, abstr. Anat. Record **32:** 202 (April) 1926; ibid. **33:** 201-255 (Aug.) 1926. Whitaker: Am. J. Physiol. **78:** 411-436 (Oct.) 1926. McMaster, P. D., and Elman, R.: On the Expulsion of Bile by the Gallbladder, and a Reciprocal Relationship with the Sphincter Activity, J. Exper. Med. **44:** 173-198 (Aug.) 1926. Higgins, G. M., and Mann, F. C.: Observations on the Emptying of the Gallbladder, Am. J. Physiol. **78:** 339-348 (Oct.) 1926.

6. Copher, Kodama and Graham: J. Exper. Med. **44:** 65-73 (July) 1926. Kodama: Am. J. Physiol. **77:** 385-388 (July) 1926. McMaster and Elman: J. Exper. Med. **44:** 173-198 (Aug.) 1926.

7. Sosman, M. C.; Whitaker, L. R., and Edson, P. J.: Clinical and Experimental Cholecystography, Am. J. Roentgenol. **14:** 495-503 (Dec.) 1925. Boyden: Anat. Record **33:** 201-255 (Aug.) 1926.

8. Whitaker: Am. J. Physiol. **78:** 411-436 (Oct.) 1926. Higgins and Mann: Ibid. **78:** 339-348 (Oct.) 1926.

9. Meltzer, S. J.: The Disturbance of the Law of Contrary Innervation as a Pathogenic Factor in Diseases of the Bile Ducts and the Gallbladder, Am. J. M. Sc. **153:** 469-477 (April) 1917. Potter, J. C., and Mann, F. C.: Pressure Changes in the Biliary Tract, Am. J. M. Sc. **171:** 202 (Feb.) 1926. McMaster and Elman: J. Exper. Med. **44:** 173-198 (Aug.) 1926. Boyden: Anat. Record **33:** 201-255 (Aug.) 1926.

10. Whitaker, Am. J. Physiol. **78:** 411-436 (Oct.) 1926.

reflects doubt on such an assumption and indicates that the gallbladder receives its stimulus independently.

These questions as to the mechanism of the gallbladder and the conditions and degree of its emptying are of prime significance and must be answered before the great practical problem of cholelithiasis can be solved.

Fig. 1.—Normal distended gallbladder of a fasting cat.

ACTIVE VERSUS PASSIVE EMPTYING

The theory that pressure of the diaphragm and liver during inspiration forces bile out of the gallbladder [3] has been discussed elsewhere [10] in brief as follows:

Assuming, as pointed out by Cannon,[11] that the intact abdomen resembles a closed hydraulic chamber, pressure applied by the diaphragm would be transmitted equally to the gallbladder and to the ducts, and emptying thus prevented. This reasoning was substantiated by the facts that (*a*) an artificial gallbladder did not show emptying after feeding, and (*b*) the gallbladder of a cat containing iodized oil did not show emptying by roentgen ray on inspiration or struggling, even after the common duct sphincter had been cut. Potter and Mann [9] and also McMaster and Elman [5] have likewise concluded, through direct measurements in normal animals, that respiratory pressure changes do not empty the gallbladder. Furthermore, Higgins and Mann [5] have shown that in the gar pike, in which respiration is by gills, obviously without diaphragmatic action, the gallbladder empties after the ingestion of fat as in mammals.

Mechanical theories of emptying, such as siphonage and suction of the duodenum, do not have sound theoretical or experimental basis.

Others believe [4] that the gallbladder is emptied by: the elastic recoil of the distended viscus on release of the common duct sphincter; the inflow and outflow of bile from the liver through the periodic closing and opening of the sphincter; suction due to the stream of bile from the liver as it passes the mouth of the cystic duct, and variations in intra-abdominal pressure. These points require discussion.

It is probable that the release of the common-duct sphincter allows the outflow of some bile from the gallbladder, in case it happens to be distended. In this laboratory, cholecystograms were produced in fasting dogs, with the gallbladders consequently distended; then, after the sphincter had been cut, the shadows shrank somewhat in size but did not disappear for eighteen or more hours, whereas after fat had been given, disappearance of the shadow occurred in from four to eight hours. In cats in which the sphincter had been cut and the gallbladder filled with iodized oil without distention, the oil could in some cases be seen by roentgen-ray examination to remain in the gallbladder for days, provided the animals were not fed.[10] The release of the common-duct sphincter would not, therefore, seem to be of great importance in the emptying of the gallbladder. It does, however, have a function in the filling of the viscus. If the sphincter is held open by a cannula [3] or cut,[10] the gallbladder will not refill with bile after emptying.

There seems to be considerable evidence against the theory that the flow of bile from the liver empties the gallbladder. After administration of bile salts, which stimulate bile flow,[12] a cholecystogram persists for the normal period. Also during fasting, although there is some discharge of bile into the intestine,[13] a cholecystogram persists for days. Furthermore, it has been often noted that a cholecystogram becomes more dense as the gallbladder empties, in spite of the smaller volume of opaque material.[14] This indicates that the concentration of bile in the gallbladder increases during emptying, which would not be possible if its contents were being "washed" out by a flow of bile from the liver. As already pointed out, iodized oil may remain in the gallbladder of a fasting cat for days, sometimes without any evidence of the inflow of bile, and then, when fat is given, there may be an uninterrupted outflow of oil

Fig. 2.—Collapsed gallbladder of a cat in marked tonus and completely empty after feeding an emulsion of olive oil. Comparison with figure 1 shows the size of the gallbladder fossa which the organ filled when distended.

11. Cannon, W. B.: Mechanical Factors of Digestion, New York, Longmans Green & Co., 1911, p. 48.

12. Whipple, G. H.: Origin and Significance of the Constituents of the Bile, Physiol. Rev. **2**: 440 (July) 1922.

13. Rost, F.: Die functionelle Bedeutung der Gallenblase: Experimentelle und anatomische Untersuchungen nach Cholecystektomie, Mitt. a. d. Grenzgeb. d. Med. u. Chir. **26**: 710, 1913 (after Potter and Mann).

14. Menees, T. O., and Robinson, H. O.: Oral Administration of Tetraiodophenolphthalein for Cholecystography, Radiology **5**: 211-221 (Sept.) 1925. Sosman, Whitaker and Edson: Am. J. Roentgenol. **14**: 495-503 (Dec.) 1925.

for from ten to fifteen minutes, the gallbladder progressively decreasing in size.

In contradistinction to the foregoing conception is that which takes the emptying of the gallbladder to be an active process in which the musculature of the organ is the expulsive agent.[5]

The gallbladder may empty so completely after the ingestion of fat that not a single drop of bile will drip from the lumen (fig. 2). This fact is good evidence in itself that elasticity is not the responsible element. Elastic tissue does not have the power of contraction unless under tension, and smooth muscle does not have elasticity.[15] It would thus appear that this result could be effected only through the increasing contraction and tonus of smooth muscle.

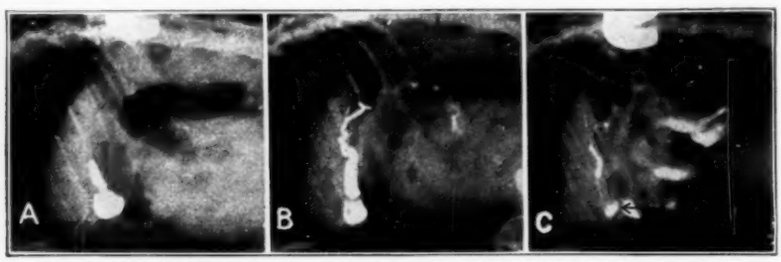

Fig. 3.—*A*, resting gallbladder of a cat twenty-two hours after being filled with iodized oil as an opaque medium at laparotomy; *B*, two minutes after the intravenous injection of 5 cc. of an emulsion of olive oil, which required eight minutes: elongation of the gallbladder with expulsion of the oil into the duodenum; *C*, one hour and forty minutes after intravenous injection of emulsion of olive oil; gallbladder very nearly collapsed, only a little of the opaque material remaining in the fundus (arrow) and cystic duct; large masses of opaque material in the intestine.

Smooth muscle stimulants contract the gallbladder.[16] And it is a striking fact that an emulsion of olive oil injected intravenously, for some unaccountable reason, may completely empty the viscus within two or three hours [10] (fig. 3). McMaster and Elman [5] have obtained further evidence that emptying is an active process by noting a marked increase in pressure in the gallbladder following the ingestion of food, and recently Higgins and Mann,[5] by direct observation in the guinea-pig, have seen the gallbladder contract.

Furthermore, if the gallbladder of the cat containing iodized oil is observed fluoroscopically, it may be seen in many cases to elongate when it starts to empty (figs. 3 and 4), this presumably resulting from the preponderance of circular muscle fibers;[17] and with the cat in normal position, in which the fundus of the gallbladder is dependent, this elongation is followed by a lifting of the heavy, viscid, iodized oil out of the gallbladder and forcing it into the cystic duct (fig. 3). After an hour or two of emptying, the active tubular organ may relax and revert to its original rounded shape (fig. 4).

Another observation recently made in this laboratory would indicate that the musculature of the gallbladder is capable of exerting considerable force. Gallstones previously removed from patients were placed in the gallbladder of a cat. After recovery the animal was fed, and a day or two later it developed signs of complete biliary obstruction. Autopsy revealed a stone, much larger than the ducts, producing complete occlusion of the common bile duct at its entrance into the duodenum, with marked distention of the gallbladder (fig. 5). The experiment was repeated several times with similar results.

In some of our experiments iodized oil was put into the gallbladder along with the stones, the organ being left flaccid. Changes denoting filling or emptying of the vesicle were not observed radiographically for several hours. Then, when the animal was fed, some of the oil was expelled and with it some of the stones, this having been done by the undistended gallbladder, in which elasticity could not have been a factor.

There does not seem to be any doubt, then, that emptying of the gallbladder depends on the activity of its musculature;[18] but what initiates this activity is not known.

QUESTION OF A RECIPROCAL ACTION BETWEEN THE COMMON-DUCT SPHINCTER AND THE GALLBLADDER

It has been generally believed that during digestion some stimulus originates in the stomach or intestine which reflexly induces the musculature of the gallbladder to contract at the same time that the sphincter of the common bile duct is opened.[19]

Potter and Mann [9] have placed tubes in the gallbladder and in the common bile duct of dogs, and after recovery of the animals, obtained synchronous pressure curves. They concluded that since, after feeding, the curves often showed a momentary increase of pressure in the gallbladder coinciding with a decrease of pressure in the common duct (denoting opening of the sphincter), this must be the result of a reciprocal action. McMaster and Elman,[5] also using an intubation method,

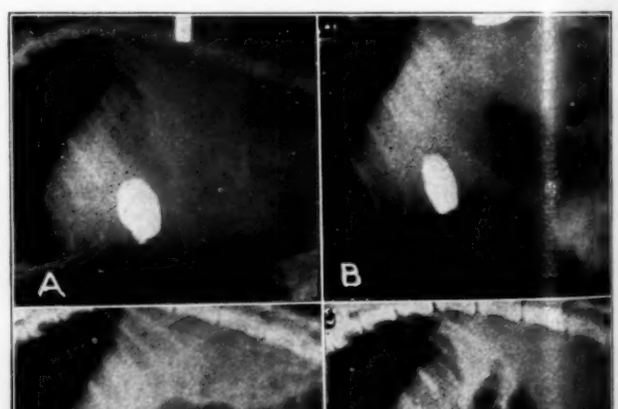

Fig. 4.—*A*, resting gallbladder of a cat two days after being filled with iodized oil at laparotomy; *B*, ten minutes after the cat was fed egg yolks: beginning elongation; *C*, one hour after feeding: marked elongation of the vesicle due to the action of circular muscle fibers in its wall; very slight emptying, however, due to poor condition of the animal; *D*, two hours after feeding, the attempt at emptying has ceased, very little of the contents having been expelled; this indicates that stasis of bile in the gallbladder may result from asthenia.

15. Bayliss, W. M.: Principles of General Physiology, New York, Longmans, Green & Co., 1920, p. 535.
16. Whitaker and Boyden: Am. J. Physiol. **76:** 199 (March) 1926. Whitaker: Boston M. & S. J. **194:** 373-375 (Feb. 25) 1926. Boyden: Anat. Record **32:** 202 (April) 1926; ibid. **33:** 201-255 (Aug.) 1926. Whitaker: Am. J. Physiol. **78:** 411-436 (Oct.) 1926.
17. Boyden: Anat. Record **30:** 333-362 (Aug.) 1925.
18. It was first shown in this laboratory that the contents of the gallbladder are expelled by its own muscular activity. This observation was reported at the meeting of the American Physiological Society, Dec. 29, 1925; also at the meeting of the Harvard Medical Society, Feb. 9, 1926.
19. Meltzer: Am. J. M. Sc. **153:** 469-477 (April) 1917. Potter and Mann: Ibid. **171:** 202 (Feb.) 1926. McMaster and Elman: J. Exper. Med. **44:** 173-198 (Aug.) 1926. Boyden: **33:** 201-255 (Aug.) 1926.

have found that during a period of increase of pressure in the gallbladder there is an increased flow through the sphincter, and they also have concluded that this signifies a reciprocal action.

There is a good deal of evidence, however, against this assumption.

The closest approach to a reciprocal mechanism that can be demonstrated in the alimentary tract is the

Fig. 5.—Stone blocking the common duct (arrow) which had been forced out of the gallbladder after feeding. At laparotomy several ordinary faceted stones from a patient were placed in the gallbladder. Five hours later the animal was fed egg yolks, and subsequently allowed to fast. Four days afterward jaundice developed, which increased in intensity until the animal was killed seven days after the operation. The stone blocking the common duct at its entrance into the duodenum was larger than either the cystic or common ducts, indicating that considerable force must have been exerted by the gallbladder in its expulsion. The tortuous cystic duct through which the stone had been forced is much larger now than normally on account of dilatation from obstruction.

"myenteric reflex"[20] or "law of the intestine,"[21] whereby the intestine is made to contract in a section slightly proximal, and to relax in a section slightly distal, to the point of stimulation. It is conceivable that such a process might affect the common duct sphincter and the gallbladder. However, gallbladders that have been denervated by stripping the hepatic artery, portal vein and common bile duct empty normally.[22] Also gallbladders in animals in which the hepatic artery and portal vein have been stripped and the common bile duct severed (being held together by a special cannula) empty normally (fig. 6); and in McMaster and Elman's[5] intubated dogs, the pressure in the gallbladder increased after feeding even though the cystic duct, with any nerves it may have contained, had been cut. Furthermore, the "myenteric reflex" is initiated by mechanical stimulation of the intestine, such as that induced by the mere presence of food or even by a foreign body like cotton.[21]

Not so with the activating mechanism of the gallbladder. Indigestible material, such as barium sulphate,[23] or even a food, such as sugar or starch, may pass through the entire alimentary tract without affecting the gallbladder in the least. Also vagal stimulation or the giving of physostigmine, which produce peristalsis, do not influence the gallbladder.[23] When an animal is given bile salts by mouth, the flow of bile into the intestine is increased, the sphincter consequently being opened, but the gallbladder, instead of contracting, is expanded with bile.[23] Though peristalsis in the duodenum does not affect the gallbladder, Kodama[24] has shown that the sphincter of the common duct opens during the relaxation phase of the wave. Thus we have the intestine working and the sphincter opening without contraction of the gallbladder; and conversely, after the intravenous injection of barium chloride, the gallbladder will expel some of its contents in spite of the fact that the common duct sphincter is probably closed tighter than ever by the smooth muscle stimulant. These facts are hardly compatible with a reciprocal mechanism.

The direct application of magnesium sulphate undoubtedly relaxes the sphincter, but it produces only a very slight emptying of the gallbladder,[25] possibly because of the elastic recoil of the distended viscus. Complete emptying comes only after taking food. Incidentally, these observations make it evident that "nonsurgical biliary drainage" by the intraduodenal injection of magnesium sulphate, as a therapeutic measure in disease of the gallbladder, is a useless procedure.

Furthermore, one of the supposed reciprocal parts of the mechanism can be destroyed without directly affecting the action of the other. The sphincter can be dilated and cut without inciting the gallbladder,[10] but after the animal is fed, the viscus will empty. This proves at least that a stimulus evoked by the opening

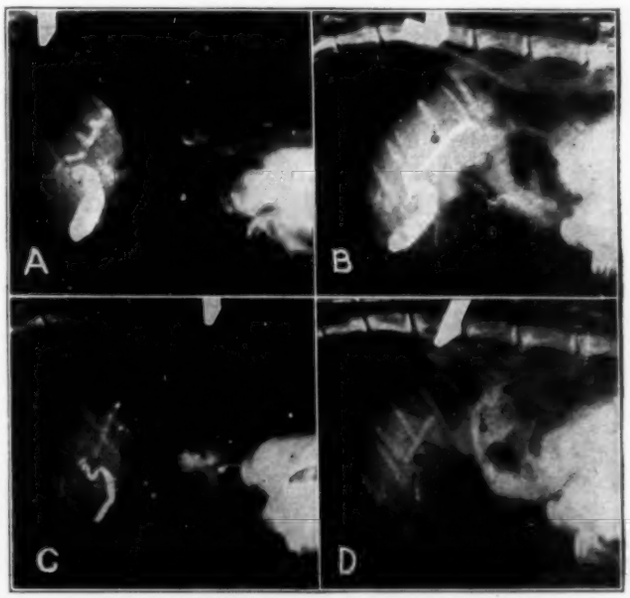

Fig. 6.—*A*, resting gallbladder of a cat twenty-two hours after being filled with iodized oil at laparotomy, when the gallbladder was also denervated by stripping the hepatic artery and portal vein, cutting the common bile duct and holding it together with a cannula; *B*, twenty minutes after feeding 50 cc. of an emulsion of olive oil: elongation of the gallbladder, with expulsion of some of its contents; *C*, three and one-half hours after feeding olive oil emulsion; emptying time about normal; glass cannula above the gallbladder; *D*, fifteen hours after feeding: a few small traces of opaque medium in the gallbladder. This series shows that the smooth muscle of the gallbladder, in the absence of nerves, expels its contents after feeding.

of the sphincter is not a necessary condition to the emptying of the gallbladder. To be sure, the gall-

20. Cannon, W. B.: Mechanical Factors of Digestion, pp. 194-195.
21. Bayliss, W. M.: Principles of General Physiology, p. 367.
22. Whitaker and Boyden: Am. J. Physiol. **76:** 199 (March) 1926. Whitaker: Boston M. & S. J. **194:** 373-375 (Feb. 25) 1926; Am. J. Physiol. **78:** 411-436 (Oct.) 1926.
23. Whitaker: Boston M. & S. J. **194:** 373-375 (Feb. 25) 1926; Am. J. Physiol. **78:** 411-436 (Oct.) 1926.
24. Kodama, S.: Personal communication to the author.
25. Silverman, D. N., and Menville, L. J.: Observations of Visualized Gallbladder by the Graham Method with Reference to the Effect of Nonsurgical Biliary Drainage, J. A. M. A. **84:** 416-418 (Feb. 7) 1925. Whitaker: J. A. M. A. **86:** 239-243 (Jan. 23) 1926.

bladder will not generally refill with bile after the sphincter is cut, but this is probably because the back pressure from the sphincter is relieved.[26]

McMaster and Elman [5] state that the mere perception of food causes the relaxation of the sphincter and the contraction of the gallbladder. But in this laboratory, the teasing of a hungry animal with food, even letting him take it into his mouth, caused not the slightest expulsion of iodized oil from the gallbladder. If, as McMaster and Elman aver, the sphincter relaxes under these conditions, the gallbladder in these experiments should have shown some sign of emptying in the presence of an effective reciprocal mechanism.

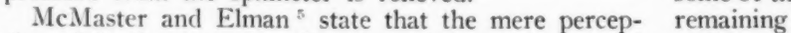

Fig. 7.—*A*, resting gallbladder of a cat four hours after laparotomy at which iodized oil was injected into the gallbladder and the common duct sphincter cut; *B*, three hours after feeding egg yolk: opaque medium being expelled into the duodenum; dark areas in fundus of gallbladder indicate presence of bile; even in the absence of the sphincter, emptying does not occur until the animal is fed; *C*, collapsed gallbladder three days after the common duct sphincter had been destroyed: Gallbladder collapsed ten hours after feeding and did not refill but remained as seen for two days; the bile it contained formed the stone seen in figure 8, presumably from overconcentration; the outline of the gallbladder is seen from the opaque medium adherent to its walls.

Elman and McMaster [27] have also found that feeding hydrochloric acid reduces the tone of the common duct sphincter, while sodium bicarbonate increases it. But in my experiments, hydrochloric acid (0.6 per cent) fed in large amounts did not produce emptying of the gallbladder, nor did sodium bicarbonate, given with egg yolk, prevent its emptying.

ACTIVITY OF THE GALLBLADDER FROM A CLINICAL POINT OF VIEW

Numerous workers with cholecystography have observed that after the ingestion of food the shadow of the gallbladder increases rapidly in density as it decreases in size, in spite of the smaller mass of opaque material.[15] Boyden [17] has noted, and I also have observed many times, when using his method of feeding cats and then killing them at varied intervals of time, that, as the gallbladder empties, its bile becomes progressively darker and more viscid—apparently more concentrated. Boyden [17] has also shown that, as the viscus empties, its mucosa is thrown into folds somewhat resembling those in the small intestine. This fact, taken in connection with the fact that, as the gallbladder decreases in size, the ratio of surface to cubic content increases, would seem to indicate that a partly collapsed gallbladder is a more efficient concentrating mechanism than a distended one.[17] It is conceivable, then, that in any condition in which the gallbladder is maintained in partial collapse and refilling prevented, concentration might go on to precipitation. This has been demonstrated to occur, as follows:

In a cat, the sphincter of the common bile duct was cut and dilated and the gallbladder, containing some bile, was filled up with iodized oil. It then remained inactive for nine hours. When egg yolk was fed, it expelled some of the bile and most of the iodized oil, only enough remaining adherent to its walls to render the organ visible radiographically (fig. 7). The gallbladder did not refill with bile on account of the inactivity of the common-duct sphincter. When the animal was killed three days after the operation, the gallbladder was found to be shrunken and filled with a hard cast answering the gross description of a gallstone (fig. 8), produced apparently by inspissation of the bile left in the gallbladder.

In another cat the sphincter was cut, the gallbladder being undisturbed. The animal was fed egg yolk and then allowed to fast for several days. This time the viscus was found partly collapsed and filled with a deep green, jelly-like mass which retained its shape when removed. In a third cat likewise treated, the gallbladder contained several smaller soft, dark masses suspended in mucus (fig. 9); in a fourth, there was a soft stone blocking the cystic duct (fig. 10); in others, the gallbladder contained only mucus, presumably having emptied itself of bile.

Stones have also been produced in cats by another method. At laparotomy, the gallbladder is filled with a very thin iodized oil. For some unknown reason this thin oil spontaneously leaves the gallbladder, and the organ refills with bile. After the animal has fasted for several days, the bile in the gallbladder will generally be found very concentrated, even muddy, and in some instances containing dark, irregular masses resembling soft stones. Whether or not in these cases the oil produced some changes in the mucosa favoring the production of stones has yet to be determined.

Now, with these facts in mind, it may be permissible to suggest some of the conditions that apparently favor the formation of gallstones in the human subject.

It would seem that these conditions might be those which maintained the gallbladder in a partially collapsed state over long periods of time, thus favoring concentration and precipitation. This could be brought about in two general ways: (1) by too oft repeated stimuli to emptying, i. e., frequent meals, or (2) by insufficiency of the sphincter of the common bile duct from atony, preventing refilling.

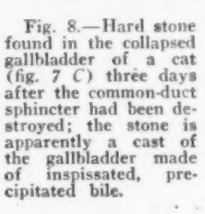

Fig. 8.—Hard stone found in the collapsed gallbladder of a cat (fig. 7 *C*) three days after the common-duct sphincter had been destroyed; the stone is apparently a cast of the gallbladder made of inspissated, precipitated bile.

Possibly, also, debilitating diseases such as diabetes or typhoid lower the muscle tonus of the gallbladder, resulting in incomplete emptying and stasis. When an animal is ill or his digestive system is not working well, as indicated by vomiting, the emptying of the gallbladder after feeding may be greatly delayed or it may empty only slightly, if at all (fig. 4). It is then, in its partially collapsed state, supposedly a good absorbing mechanism. If the stimulus to emptying is soon repeated by another meal, the gallbladder cannot refill with fresh bile; it remains partially collapsed—and concentration goes on. It is conceivable that an individual who eats too much and too often may reduce the efficiency of the musculature of the alimentary tract as a whole, and with it the gallbladder, with a resulting

26. Winkelstein and Aschner: Am. J. M. Sc. **169**: 679-686 (May) 1925. Mann, F. C.: A Physiologic Consideration of the Gallbladder, J. A. M. A. **83**: 829-832 (Sept. 13) 1924. Whitaker: Am. J. Physiol. **78**: 411-436 (Oct.) 1926.

27. Elman, R., and McMaster, P. D.: The Physiological Variations in Resistance to Bile Flow to the Intestine, J. Exper. Med. **44**: 147-171 (Aug.) 1926.

stasis of bile in the vesicle.[28] This overfeeding might also reduce the tonus of the common duct sphincter, along with that of the alimentary tract in general, preventing complete refilling of the organ, with further promotion of concentration. Such a process may provoke the formation of gallstones.

There is little doubt that reactions to infection play a part in cholelithiasis,[29] but this is not incompatible with the foregoing concept. We know from cholecystography that the diseased gallbladder may have some power of concentration unless the mucous membrane is destroyed [30] (fig. 11), and we also know that disease of the wall of the gallbladder inhibits filling and emptying.[31] Thus the conditions favoring concentration and precipitation may be brought about.

Nor does this hypothesis disagree with that of Aschoff,[32] who considers that cholesterin stones are produced by precipitation from bile containing excessive amounts of this substance, which is secreted by the liver during certain metabolic disturbances. The stasis induced by interference with the mechanism of the gallbladder would favor this precipitation.

Rous, McMaster and Drury [33] have studied the formation of stones in glass and rubber tubing through which

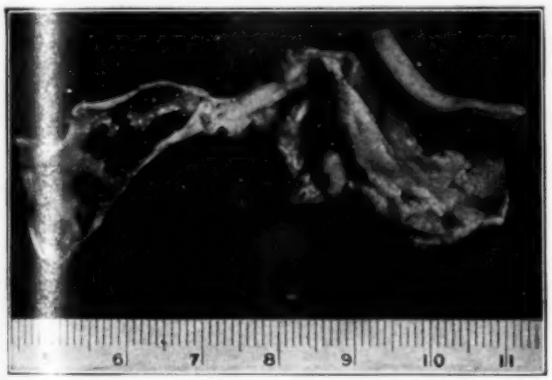

Fig. 9.—Gallbladder of a cat, showing soft stones; four days previously at laparotomy the gallbladder was partially emptied by pressure, and the sphincter of the common bile duct cut and dilated; the animal made a good recovery and ate well until he died rather suddenly of peritonitis; the gallbladder was half full of mucus suspending these putty-like brownish-black masses.

the bile of dogs was being drained. They have concluded that concentration alone does not cause lithiasis, but that a high alkalinity of the bile allows precipitation of salts in a matrix of organic débris and on small "nuclei" which are produced by injury to the liver. The stone formation is favored by stasis due to infection, though this is not an essential element.

28. This question is being investigated experimentally, as well as the effect on the emptying of the gallbladder of other measures that interfere with the normal action of the alimentary tract.

29. Cushing, Harvey: Observations upon the Origin of Gallbladder Infections and upon the Experimental Formation of Gallstones, Bull. Johns Hopkins Hosp. numbers 101-102, August-September, 1899. Gilbert and Fournier: Lithiase biliare expérimentale, Compt rend. Soc. de biol., Oct. 30, 1897, p. 936, cited by Cushing. Gilbert, A.: Note pour servir a l'historie de la théorie microbienne de la lithiase biliare, Arch. gén. de méd. **2**: 257 (Sept.) 1898, cited by Cushing. Mignot, R.: L'origine microbienne des calculs biliaires, ibid. **2**: 129-263 (Aug.) 1898, cited by Cushing.

30. Whitaker: J. A. M. A. **86**: 239-243 (Jan. 23) 1926. Spurling, R. G., and Whitaker, L. R.: End Results of Cholecystostomy as Shown by the Cholecystogram, Surg. Gynec. Obst. To be published.

31. Potter and Mann: Am. J. M. Sc. **171**: 202 (Feb.) 1926. Whitaker: Am. J. Physiol. **78**: 411-436 (Oct.) 1926. Spurling and Whitaker: Surg. Gynec. Obst., to be published.

32. Aschoff, L.: The Origin of Gallstones, Lectures on Pathology, New York, Paul B. Hoeber, 1924, pp. 206-232.

33. Rous, Peyton; McMaster, P. D., and Drury, D. R.: Observations on Some Causes of Gallstone Formation: I. Experimental Cholelithiasis in the Absence of Stasis, Infection and Gallbladder Influences, J. Exper. Med. **39**: 77-96 (Jan.) 1924; II. On Certain Special Nuclei of Deposition in Experimental Cholelithiasis, ibid. **39**: 97-116 (Jan.) 1924; III. The Relation of the Reaction of Bile to Experimental Cholelithiasis, ibid. **39**: 403-423 (March) 1924.

It will be interesting to determine whether infection, alteration of liver function, or change in reaction of the bile play a part in cholelithiasis after the induction of stasis by interference with the normal filling and emptying mechanism of the gallbladder.

The fundamental condition, then, to gallstone formation is universally recognized to be stasis. Accordingly, in view of my experimental observations, one of the factors in the prevention of gallstones should be the

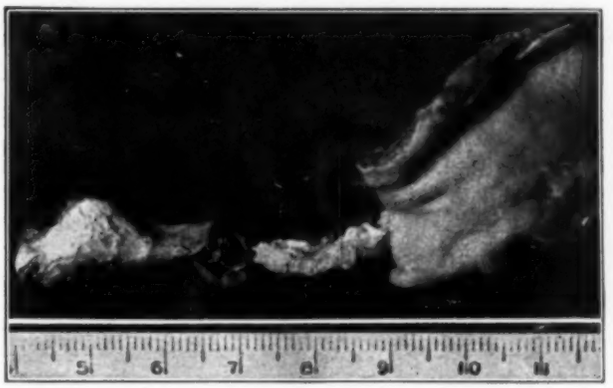

Fig. 10.—Gallbladder of a cat, showing soft stone which blocked the cystic duct; the specimen was taken three days after laparotomy, at which the sphincter of the common duct was cut, the animal having been fed meanwhile; the gallbladder itself contained only mucus; undoubtedly the stone had been forced into the duct after feeding; the gaping entrance of the common bile duct on the mucosal surface of the duodenum can be seen on the right.

effort to combat stasis by a proper dietetic habit. This should include, not frequent feeding,[34] but taking meals at long intervals which are fairly rich in fat. A person should be really hungry when he eats, which signifies that the tone of his alimentary canal [35] and gallbladder is high. When the meal is eaten under these conditions, the digestive organs attack it vigorously, and the gallbladder empties itself in a few hours. The meal is rapidly disposed of, and the gallbladder rapidly refills

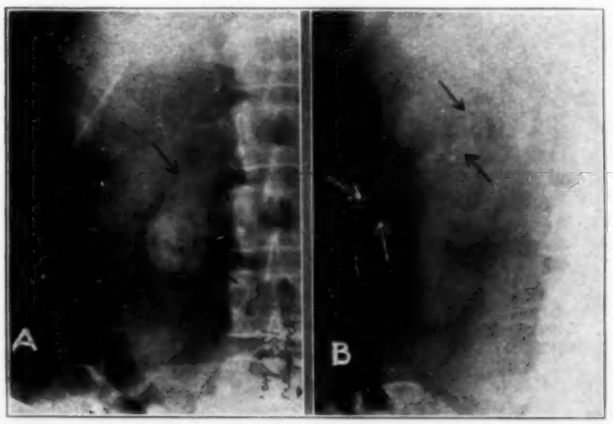

Fig. 11.—*A*, cholecystogram of a patient showing shadow of normal outline, and containing numerous dark areas denoting stones: resting gallbladder fifteen and one-half hours after intravenous injection of sodium tetraiodophenolphthalein, patient fasting; *B*, one hour after a fat meal: gallbladder has become markedly elongated as a result of the action of its circular smooth muscle; this indicates that although a gallbladder may be the seat of stone formation, its musculature may still be active.

with bile. Thus the organ is subjected to two or three good flushings daily, allowing little chance for precipitation or long continued irritation by foreign particles.

34. Meltzer: Am. J. M. Sc. **153**: 469-477 (April) 1917. McMaster and Elman: J. Exper. Med. **44**: 173-198 (Aug.) 1926.

35. Alvarez, W. C.: The Mechanics of the Digestive Tract, New York, Paul B. Hoeber, 1922, p. 17.

Furthermore, it is quite apparent that small stones and débris can be cleaned out of the gallbladder by this process (fig. 5). The organ may even be diseased to the extent of stone formation and yet show a great deal of activity (fig. 11). But if the gallbladder contains masses too large for easy passage through the cystic duct, the giving of food rich in fat may only aggravate the symptoms. Then, too, if the wall of the gallbladder is so affected as to prevent the activity of its musculature, emptying will not occur.[10] Under these conditions, the only recourse is cholecystectomy.[30]

SUMMARY

1. The contents of the normal gallbladder are expelled by the activity of its musculature during the digestion and absorption of fat.

2. Proof does not exist that this effect is brought about by a reciprocal action between the sphincter of the common bile duct and the gallbladder; in fact, there is considerable evidence against it.

3. Stones can be produced experimentally in animals by interference with the normal mechanism for filling and emptying the gallbladder, resulting in stasis, and overconcentration of bile. It is possible that stones are produced in human beings by dietetic habits resulting in stasis. It is also possible that debilitating diseases, by reducing the muscle tonus of the gallbladder, favor stasis and the formation of stones.

4. Stones can be forced out of the gallbladder in experimental animals by the giving of fat. It is probable that the same effect can be produced in human beings by the same means, provided the stones are not too large or the disease has not progressed far enough to render the musculature of the gallbladder ineffective.

STANDARDIZED METHOD OF TREATING TAPEWORM INFESTATIONS IN MAN TO RECOVER THE HEAD*

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AND
PHILIP W. BROWN, M.D.
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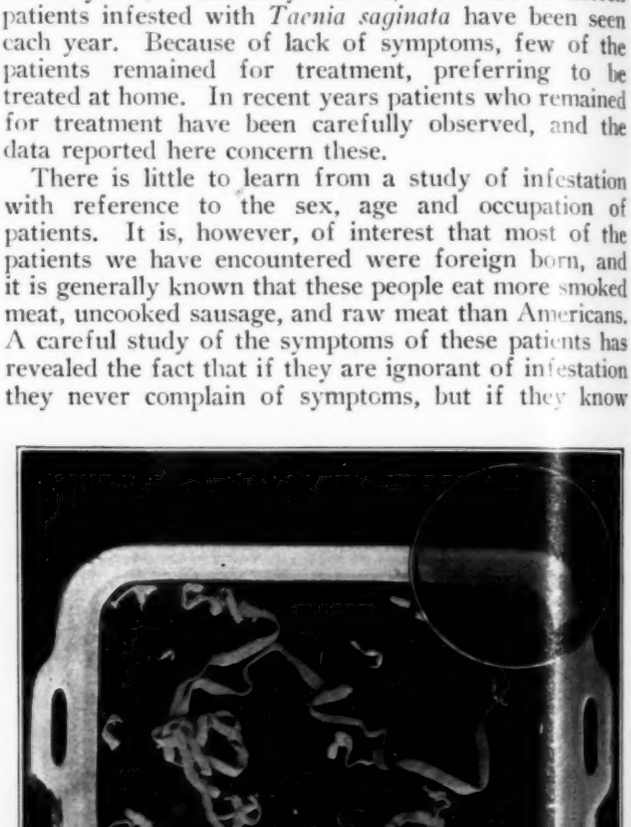
It is a matter of interest that whereas the instances of infestation by *Taenia solium* have decreased in the United States until it is rarely found, the instances of infestation by *Taenia saginata,* judging from such few reports as are available, have remained about the same. It would seem that the fondness for raw meat has not changed in the human family over a long period of years. Through a great deal of propaganda by parasitologists and public health officials concerning the proper cooking of pork and the discovery of methods of killing trichinae by freezing, the instances of parasitic diseases of man obtained from swine have been decreased.

In most large clinics today *Taenia saginata* is encountered about as frequently as at any time during which we have statistical data. It is surprising, therefore, that the treatment of this usually harmless parasite has not been improved on for many years; indeed, in an examination of the monographic literature, we must go back many decades to find a large series of cases described, and it is rare to find the results of treatment summarized. The textbooks of medicine are as indefinite today concerning the symptoms and treatment of the disease as they were fifty years ago. This may be explained by the fact that in private practice tapeworm is seldom encountered, and consequently series of cases large enough to afford definite conclusions are not available.

For years, in the Mayo Clinic, from ten to fifteen patients infested with *Taenia saginata* have been seen each year. Because of lack of symptoms, few of the patients remained for treatment, preferring to be treated at home. In recent years patients who remained for treatment have been carefully observed, and the data reported here concern these.

There is little to learn from a study of infestation with reference to the sex, age and occupation of patients. It is, however, of interest that most of the patients we have encountered were foreign born, and it is generally known that these people eat more smoked meat, uncooked sausage, and raw meat than Americans. A careful study of the symptoms of these patients has revealed the fact that if they are ignorant of infestation they never complain of symptoms, but if they know they harbor the worm almost any kind of symptom may be elicited. Hirsch,[1] in 1879, noted, besides other symptoms, the following in 100 cases of tapeworm infestation, forty-one of which were *Taenia solium,* fifty-one *Taenia saginata,* and two *Diphyllobothrium latum:* loss of appetite, 6; bulimia, 10; capricious appetite, many cases; salivation, 6; gaseous eructations, 5; nausea, 13; abdominal pains, 14; constipation, 5; diarrhea, 6; headache, 14; irregular bowel movement, 3; nasal pruritus, 12; anal pruritus, 19; vertigo, 16, and epileptiform attacks, 1.



Apparatus used for recovery of the heads of tapeworms. The sieve is a 20 mesh. The enamel pan is painted black with asphalt paint. The wooden applicator points to the head, which is relatively much smaller than the segments usually seen by the patient.

Nearly all textbooks refer to the ravenous appetite of patients infested by tapeworm. However, careful observation of a group of patients shows that the appetite is not more ravenous than that of persons in general. All the symptoms recorded by Hirsch may be matched in equal percentage by studying almost any group of cases if the series is large enough. Hirsch failed to note in his records whether these patients

* From the Division of Medicine, Mayo Clinic.
* Read before the American Society of Parasitologists, Philadelphia, Dec. 28, 1926.

1. Hirsch, Joseph: Zur Symptomatologie und Therapie des Bandwurmleidens, Diss. Greifswald, Carl Sell, 1879.

suffered from other disorders that might have explained the symptoms. In none of our cases was it possible to connect accurately any symptoms described by the patient with the infestation. Only one patient gave us any specific information concerning his appetite; at times he was very hungry and at other times he did not care for food at all. It seems safe to say that, barring mechanical injury by the worm, such as occlusion of the bile passages or the appendix, or mechanical obstruction, the presence of *Taenia saginata* rarely causes symptoms.

The patients we have treated have known of the infestation from one month to twenty years, with an average of about ten years. Many of these patients had been treated repeatedly, indicating that the treatment ordinarily administered is not sufficient to remove the head of the worm. As a matter of fact, if it is removed it is rarely observed by the physician. Three of nineteen patients treated had not been treated previously. From two patients we were unable to elicit any information concerning treatment, but fourteen of the nineteen had been treated many times, most of them four or five times, and one as many as eight times. Our treatment was instituted not only to remove the worm but with a view of actually obtaining the head. The method of procedure is not particularly original, being a combination of various methods. The result has been the recovery of the head in every instance in which the routine was correctly carried out.

In our observation of these nineteen patients, pitfalls in the treatment were revealed which are worthy of note. As a result of our treatment, from one to four heads in each of ten patients were recovered at the first attempt. In two the first attempt failed but the second was successful. In one of these, the patient vomited the drug and would not complete the treatment at the time; he did not return for more than a year. He was then treated successfully, the worm passing in toto. In the second instance, the patient had eaten food up until the time of treatment, against orders. A repetition of the treatment correctly administered one week later resulted in the recovery of the head. In the remaining seven cases, the head was not recovered. Two of the patients vomited the drug and would not take another treatment. The specimens sent to the laboratory by two others contained so much food débris and toilet paper that examination was impossible. In one instance, through error, the stool was obtained only before the administration of the drug. In one case, the patient, through error, passed the stool in the toilet. In the last instance, the nurse, thinking that she would be helpful, fished the obvious segments from the specimen and threw the rest away. These instances of failure bring out the important points to be considered in the treatment of tapeworm. First, it is necessary to clear out the gastro-intestinal tract completely for at least twenty-four hours preceding the treatment, and also an attempt should be made to clear the lower bowel of the large food remnants. In particular, fruits of various kinds should be avoided before treatment. Since some patients vomit the drug, it is often preferable to give it by stomach tube. It may be administered in black coffee but we prefer to give it by mouth without coffee, and if the first dose is not retained, to give another through the stomach tube. All of the stool in its original container is sent to the laboratory for examination. If the following course of treatment is rigidly adhered to, one may expect success in practically every instance.

PROCEDURE FOR REMOVING WORM

Preparation of the Patient.—The patient should not have luncheon or supper the day preceding treatment; black coffee or tea and water may be taken freely. At 6 p. m., from 15 to 30 Gm. of magnesium sulphate is administered, and at 6 a. m. the same dose is again administered.

Administration of the Drug.—The patient is not given breakfast, and after the bowels have moved, 30 cc. of the following emulsion is administered: oleoresin of aspidium, 6 cc. or Gm.; powdered acacia, 8 Gm.; distilled water sufficient to make 60 cc. One hour later, a second 30 cc. of emulsion of aspidium is administered. Two hours later 30 Gm. of magnesium sulphate is administered; two hours after this a large soap-suds enema is given. The patient then passes the stool into a container, which is sent, together with the stool passed before the administration of the drug, to the laboratory. He is cautioned not to put toilet paper into the specimen.

Search for the Worm Head.—If the patient has been properly prepared, the stool will consist of practically nothing but water, a few shreds of digested food, and the worm. The top half of the stool, which usually consists of about 2 quarts of water, may be poured off, and the rest of it is poured through a sieve with a 20-mesh bottom. Warm tap water is now run through the sieve, and if the procedure is properly carried out, the sieve will contain nothing but the worm. The contents of the sieve are now emptied into a flat enamel pan measuring about 25 by 30 cm., the bottom of which has been painted black with asphalt paint. The sieve is rinsed out into the pan by running water through the bottom. One may then carefully look for the head, using wooden applicators as shown in the accompanying illustration. If each step has been carefully carried out, the finding of the head will be comparatively simple. The large soap-suds enema given at the end of the treatment is extremely important, for often, when the worm is dislodged, the head breaks off and passes into the colon, where it will remain unless swept out by the large enema. It is also essential to use saline purgatives instead of castor oil, as aspidium is highly toxic and soluble in oil.

We believe it safer to carry out the treatment in one day rather than to have the patient take the anthelmintic the night before. We have treated five patients infested with *Diphyllobothrium latum* by this standardized method, and in each instance the head was recovered.

SUMMARY

A standardized method of treating tapeworm infestations in man with the idea of recovering the head consists of three essential steps: (1) preparation of the patient; (2) administration of the anthelmintic, and (3) the search for and recovery of the head.

The method may be expected to yield successful results if each step is rigidly and precisely carried out.

Periodic Health Examinations.—With the progress of medicine to a preventive standpoint, the logical importance of establishing periodic overhauls of the adult population may be expected to be more widely recognized and acted on, as in this way the causes of early disorders may be removed and so the sequence of serious results prevented. If and when periodic overhauls, twice or three times a year, become recognized in much the same light as a visit to the dentist is now, a fresh line of work allied to insurance practice will be opened up.—Rolleston, Humphry: *Lancet* **2**:738 (Oct. 9) 1926.

CHOLECYSTOGRAPHY AND PATHOLOGIC CHANGES IN GALLBLADDER

CORRELATION AS OBSERVED IN A STUDY OF FIFTY CONSECUTIVE CASES *

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Cholecystography is being used so extensively to test the function of the gallbladder that it was considered advisable to compare the evidence of the cholecystogram with the pathologic changes in the gallbladder after its removal.

We have studied every case available. The department of roentgenology has examined the gallbladder, after administration of tetraiodophthalein, in 662 clinic patients. Cholecystectomy was done later in forty of these. The other ten patients were seen in private practice.

In thirty-two of the cholecystograms the dye (3.5 Gm. of tetraiodophenolphthalein sodium) was given intravenously. In the early tests, films were taken three hours after administration of the dye. In later tests the interval was ten hours, and in the most recent tests fifteen hours. In the other eighteen cholecystograms the dye was given by mouth with the evening meal, 5 grains (0.3 Gm.) to each 10 pounds (4.5 Kg.) of body weight, and the films taken the next morning. A second film was always taken after a meal rich in fat.

In interpreting the cholecystograms we especially noted the form and contractility of the gallbladder, and the presence or absence of stones. The concentration of the dye was estimated by comparison with a known standard. The standard consists of a roentgenogram of four 33 mm. rubber bags filled with an aqueous solution of tetraiodophthalein of 0.5, 1, 2 and 3 per cent concentration, respectively. These are immersed in water and exposed by normal gallbladder technic, which includes constant spark gap (4 inch) and the use of the Bucky diaphragm. As the interpreter does not know whether he will have a light or a dark film of the patient to measure, he must be provided with a whole series of these standards ranging from very light to very dark.[1] Concentrations of 1.5 per cent after intravenous and 1 per cent after oral administration were considered normal.

In examining the gallbladder microscopically, the amount of intact epithelium and the preservation of the mucosa was determined, and the presence of leukocytes, fibrous tissue and fatty material in the wall of the gallbladder was noted. For the pathologic conditions observable at operation we were dependent on the surgeon's notes.

For statistical purposes the degree of inflammation is recorded in five grades, ranging from cholecystitis grade 1, which designates the slightest discernible pathologic change, to cholecystitis grade 5, which designates a complete destruction of the mucosa, with extensive fibrosis and cellular infiltration of the wall.

No cases of simple acute cholecystitis occurred in this series.

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1. The method will be described in detail in an early number of the American Journal of Roentgenology.

COMMENT

Although disturbance of function of the gallbladder, as demonstrated by dye test, is important evidence of disease, in drawing conclusions from such a series as this it must be remembered that the cases are in a high degree selected. Only those patients who had clinical evidence of cholecystitis or stones were operated on. Many patients with positive roentgenographic signs of disease were not operated on. If we could examine the gallbladders of all these, too, we might find as many instances of disturbed cholecystogram with nearly normal gallbladder as we have of normal cholecystogram with diseased gallbladder. However, in our series of fifty cases we did not find any case of abnormal response to the dye test without disease of or about the gallbladder.

It was obvious to us, however, that the dye test is not a "nickel-in-the-slot" method, which enables one to put in the dye and obtain a diagnosis. So many factors are involved that it seems too much to keep the whole subject in mind at one time. From the information obtained we have therefore attempted to answer certain questions that concern the various aspects of the subject.

1. *Can the roentgen ray discover gallstones?*

One may argue that some gallstones will show directly (calcified stones). All other stones will show as "negative" shadows if immersed in bile containing dye. All gallstones should then be discoverable by roentgen ray if the gallbladder can be visualized.

Our experiences, however, showed the fallibility of the roentgenologist. Stones were found at operation in twenty-three cases. In eleven of these the gallbladder was visualized (5, 8, 9, 10, 15, 16, 17, 18, 21, 32 and 46) and it is with these cases that we are concerned. In three of these eleven cases, the roentgenologist failed to see the stones (16, 21 and 32), and in another he thought the stones were overlying gas bubbles (9). In one case (26), he reported stones, but none were found at operation. In none of the cases were gallstones found in the common duct. In the three cases in which the stones were not seen the dye had concentrated to 1 per cent in one case and less than 0.5 per cent in two cases. In the seven cases diagnosed correctly by the roentgenologist, five gave "negative" shadows in a visualized gallbladder, and two gave positive shadows. Of the eleven cases, therefore, seven were diagnosed correctly, three were not diagnosed, and in one the stones were reported as gas bubbles.

2. *Does normal concentration of the dye mean normal mucous membrane in the gallbladder?*

Of the thirty-two cases in group 1, eleven showed normal concentration (2, 8, 10, 11, 17, 18, 19, 22, 24, 26 and 28). In these eleven cases a microscopic examination of the gallbladder showed cholecystitis grade 1, three times; grade 2, once; grade 3, four times; grade 4, three times.

Of the eighteen cases in group 2, ten showed normal concentration (33, 37, 38, 39, 40, 41, 42, 44, 47 and 50). In these ten cases cholecystitis grade 1 appeared three times; grade 2, once; grade 3, five times, and normal gallbladder, once (44).

The highest concentration observed in this series (24), namely, 3 per cent, occurred in a gallbladder with a thin wall, atrophic mucosa, epithelium one-half denuded and with slight cellular infiltration in the wall,

3. *Does failure of the gallbladder to visualize after the dye test mean disease?*

Nineteen cases failed to visualize: fourteen cases out of thirty-two in which the dye was administered by vein, five cases out of eighteen by mouth (1, 3, 4, 6, 12, 13, 14, 20, 23, 25, 27, 29, 30, 31, 35, 36, 45, 48 and 49). In eleven of these nineteen cases there were stones; fifteen showed moderate to severe cholecystitis with partial or complete destruction of the mucosa. Four cases, however, showed little or no destruction of the mucosa. In one of these, stones were found (31), but in the other three (3, 6 and 20), in all of which the dye was given by vein, it is difficult to understand from the microscopic picture why the dye could not be concentrated. One gallbladder (3) had omental adhesions, in one case (6) enlarged glands were found at the junction of the cystic and the common duct, with fine adhesions to the duodenum, and in the other case (20) the gallbladder was adherent to the duodenum and colon, thick walled at its ampulla, and there were enlarged glands along the cystic duct.

In this series there were four "strawberry" gallbladders (3, 11, 19 and 50). Except for the presence of large lipoid-bearing cells in the submucosa and stroma of the villi, these four specimens showed practically no microscopic evidence of disease. However, in case 3 the gallbladder failed to visualize. In case 11, concentration of the dye reached 2 per cent, but for some reason the emptying power was not tested. In case 19, concentration reached 2 per cent, but the gallbladder emptied only very slightly after a fatty meal. In case 50, concentration reached 1 per cent, and the gallbladder had a normal outline and emptied normally.

4. *Does incomplete concentration mean disease?*

Of thirty-two cases in group 1:

(*a*) Four cases showed concentration of 0.5 per cent or less (7, 9, 21 and 32). The microscopic examination showed cholecystitis grade 3 in three cases, grade 1 in one case, and in three cases stones were found.

(*b*) In two cases, concentration reached from 0.5 to 1 per cent (15 and 16). Both showed cholecystitis grade 3, and both contained stones.

(*c*) In one case concentration reached from 1 to 1.5 per cent (5), and this showed cholecystitis grade 2.

Results of Observations

	Cholecystogram					Pathologic Condition		
No.	Concentration	Outline	Empties	Stones	Gallbladder at Operation	Stones	Epithelium	Wall
					Group 1, Dye Given Intravenously			
1	None	—	—	—	Thick, fibrous, adherent	+	Intact	Grade 2
2	1.5%	Normal	Yes	—	Adhesions at ampulla	0	Intact	Grade 1
3	None	—	—	—	Thick, fibrous, adherent	0	Intact	Grade 1*
4	None	—	—	—	Thick, opaque, fine adhesions	0	Gone	Grade 4
5	1%+	Normal	No	+	Adherent to colon	+	Intact	Grade 2
6	None	—	—	—	Fatty, fine adhesions, gland +	0	Intact	Grade 2
7	0.5%	Normal	Yes	—	Wall slightly thickened	0	¾ gone	Grade 3
8	2%	Normal	Yes	+	Few adhesions to duodenum	+	All gone	Grade 4
9	0.5%	Normal	Yes	"Gas bubbles"	Slightly thick, with few fine adhesions	+	½ gone	Grade 3
10	1.5%	Normal	Yes	+	Thick, white and fibrous	+	.....	Grade 4
11	2%	Normal	?	—	Looks and feels normal	0	Intact	Grade 1*
12	None	—	—	—	Thick-walled and adherent	0	½ gone	Grade 2
13	None	—	—	—	Distended and fibrous wall	+	⅞ gone	Grade 4
14	None	—	—	—	Stone in cystic duct	+	⅞ gone	Grade 4
15	1%	Normal	Yes	+	Thick, fibrous and opaque	+	½ gone	Grade 3
16	1%	Normal	No	—	Fibrous and moderately thick	+	½ gone	Grade 3
17	2%	Normal	Yes	+	Thick, fibrous and adherent	+	⅔ gone	Grade 4
18	2%	Normal	Yes	+	Opaque and thick	+	¾ gone	Grade 3
19	2%	Normal	Slight	—	Thick; intestinal adhesions	0	Intact	Grade 1*
20	None	—	—	—	Thick wall; dense adhesions	0	Intact	Grade 1
21	0.5%	Normal	Yes	—	Large; dense adhesions	+	Intact	Grade 1
22	2.5%	Normal	No	—	Large, opaque; lymph glands +	0	⅔ gone	Grade 3
23	None	—	—	—	Thick-walled, distended	+	¾ gone	Grade 4
24	3%	Normal	Yes	—	Thick, opaque and fatty	0	½ gone	Grade 2
25	None	—	—	+	Thick and opaque	0	½ gone	Grade 2
26	1.5%	Irregular	Yes	+	Thick and fibrous	0	Intact	Grade 3
27	None	—	—	—	Thick, fibrous, duct obstructed	+	All gone	Grade 4
28	2.5%	Normal	No	—	Fibrous and adherent	0	½ gone	Grade 3
29	None	—	—	—	Fibrous, distended, adherent	+	⅓ gone	Grade 3
30	None	—	—	+	Slight fibrosis; no adhesions	+	⅛ gone	Grade 2
31	None	—	—	—	Thick, white and adherent	+	⅛ gone	Grade 1
32	0.5%	Normal	?	—	Thick and fibrous	+	⅘ gone	Grade 3
					Group 2, Dye Given by Mouth			
33	1%	Normal	Yes	—	Densely adherent to bowel	0	½ gone	Grade 2
34	0.5%	Normal	Yes	—	Fibrosed, adherent to colon	0	⅔ gone	Grade 3
35	None	—	—	—	Wall thickened	+	⅞ gone	Grade 3
36	None	—	—	—	Large, thickened and adherent	+	⅞ gone	Grade 3
37	1.5%	Normal	Yes	—	Wall moderately thickened	0	Gone	Grade 3
38	1.5%	Normal	Yes	—	Pale, thick, fibrous, adherent	0	Gone	Grade 3
39	1%	Normal	Yes	—	Firm adhesions	0	⅛ gone	Grade 1
40	1%	Irregular	Yes	—	Scar tissue in wall	0	¾ gone	Grade 3
41	1%	Normal	Yes	—	Fine adhesions at ampulla	0	⅞ gone	Grade 3
42	1%	Normal	Yes	—	Thick, fibrous and adherent	0	Intact	Grade 1
43	0.5%	Normal	Yes	—	Gallbladder looks and feels normal	0	Intact	Grade 1
44	2%	Irregular	Yes	—	Few fine adhesions	0	Intact	Normal
45	None	—	—	—	Shrunken, fibrous, adherent	+	⅞ gone	Grade 4
46	0.5%	Normal	?	+	Large, thick-walled, opaque	+	Gone	Grade 4
47	1%	Normal	No	—	Buried in dense adhesions	0	½ gone	Grade 3
48	None	—	—	+	Pale, fibrous, thick, adherent	+	Gone	Grade 5
49	None	—	—	—	Thickened, fibrous, adherent	0	⅛ gone	Grade 3
50	1%	Normal	Yes	—	Surrounded by adhesions	0	Intact	Grade 1*

* Strawberry gallbladder.

Of the eighteen cases in group 2, three reached concentration of 0.5 per cent or less (34, 43 and 46), and showed cholecystitis grade 3, grade 1 and grade 4, respectively.

5. *Is the ability to empty of any importance?*

Failure to empty after a fatty meal (cream or oil) was noted in five cases (5, 16, 22, 28 and 47). Three of these were gallbladders adherent to surrounding organs; another was thick, fibrosed and contained stones, and the fifth was adherent to the large bowel and full of faceted stones.

6. *Can adhesions be diagnosed by distortion of the gallbladder shadow?*

Of thirty-one gallbladder shadows, three were noted to be irregular in outline (26, 40 and 44). The sur-

geon noted a few adhesions in one (44), scar tissue in the wall of one (40), and a thickened fibrous wall in one (26).

In the other twenty-eight visualized cases the surgeon noted adhesions eighteen times (2, 5, 8, 9, 10, 17, 19, 21, 22, 28, 33, 34, 38, 39, 41, 42, 47 and 50). These were noted to be firm or dense in five cases, and slight or fine in four cases. Yet in none of these was any distortion of outline noted in the cholecystogram.

CONCLUSIONS

After comparing the roentgen-ray observations after administration of tetraiodophthalein with the pathologic observations in fifty consecutive cases in which cholecystectomy was performed, we conclude that:

1. Cholecystography is capable of considerably improving our diagnosis of gallstones.
2. A normal cholecystogram does not necessarily mean a normal gallbladder.
3. Failure of the gallbladder to visualize even after intravenous administration of the dye may occur with a nearly normal mucosa and in the absence of gallstones.
4. Smoothness or irregularity of the gallbladder shadow does not correlate very well with absence or presence of gallbladder adhesions.
5. Failure to empty after a fatty meal is probably a sign of disease. Our experience, however, is slight (five cases).

ENCEPHALITIS ASSOCIATED WITH MEASLES *

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The literature on encephalitis associated with measles is meager and rather indefinite. The ideas with regard to encephalitis have undergone considerable change in the past few years as a result of the intensive study of epidemic encephalitis. There are numerous references to involvement of the central nervous system during or shortly after an attack of measles. In most instances the authors apparently regarded these symptoms as incidental. Only rarely were the symptoms referable to the central nervous system grouped and designated as a definite clinical entity.

It has been recognized for a long time that the various acute infections, as measles, scarlet fever, pneumonia and pertussis, may be followed by encephalitis, most of which have manifested themselves in the form of a cerebral hemiplegia. Particular attention was called to these points by Abt [1] in 1906. While we have seen a few instances of encephalitis following various of the acute infectious diseases, by far the largest number, twelve, have been associated with measles. The first was seen in May, 1918. During the year 1926, particularly, we have seen a comparatively large number, eight. Our experience coincides with that of other clinicians as personally reported to us.

* Read before the Section of Pediatrics, New York Academy of Medicine, Jan. 13, 1927.

* From the Division of Applied Therapy, Bureau of Laboratories Department of Health, New York City.

1. Abt, I. A.: Acute Nonsuppurative Encephalitis in Children, J. A. M. A. **47**: 1184 (Oct. 13) 1906.

SYMPTOMATOLOGY AND DIAGNOSIS

The clinical picture is of a highly variable character. The onset of this condition was usually sudden, and developed during or a few days after the attack of measles. In some instances, two weeks elapsed before the appearance of the symptoms referable to the central nervous system. Fever was an almost constant symptom, being present in all but one of our cases. The type of fever was variable. Headache also was almost constantly present. Vomiting was a symptom in only a few cases. Convulsions were present in about half of the cases, and in some instances they were very severe. The most striking of all the symptoms were referable to the mental condition. In some instances there was a mild degree of irritability or apathy. In others there was profound stupor or delirium. Paralysis of various muscles or groups of muscles occurred in one third of our cases. In two instances there was a paralysis of the rectus externus muscle of the right eye, and in one of these cases there was an associated right facial palsy. One patient had a spastic paralysis of the left arm which cleared up in less than a week. The fourth patient had a spastic paralysis of the left arm and a paresis of the left side of the face and the left leg. This patient died after an illness of three weeks, during which period his condition had remained unchanged. Hyperesthesia was fairly common. Muscular twitchings occasionally occurred. General muscular spasticity was a rather common feature. Among the rarer symptoms were photophobia, epistaxis, constipation, and retention or incontinence of urine.

The physical signs were chiefly those due to varying degrees of meningeal irritation or increased intracranial pressure. Stiffness of the neck, Kernig's sign, Brudzinski's sign, a bulging fontanel or a positive Macewen sign were noted in a fair proportion of cases. The condition of the reflexes was highly variable. In some instances they were exaggerated and in others they were diminished or absent. In many of our cases, however, the reflexes were normal. The Babinski and its confirmatory reflexes were occasionally present. While ocular symptoms were rare, they were rather striking when present. One patient was apparently blind. Fixed dilatation of pupils was present in two cases. There were also two instances of nystagmus and strabismus.

THE SPINAL FLUID

One or more punctures were performed in every case. The fluids usually came out under increased pressure and were clear in all but two instances, which were contaminated by a few red blood cells. Practically all the spinal fluids showed some evidence of abnormality. There was usually a slight or moderate increase in cells, most of which were mononuclears. In most instances there was also a slight or moderate increase in protein content. It should be noted that occasionally a fluid showed an increase in the cytology without showing a parallel increase in the protein. More commonly, however, the protein was increased with or without a concomitant increase in the cell content. The sugar was uniformly normal or high. Smears and cultures were all negative for organisms. The accompanying table shows the spinal fluid analyses.

DIFFERENTIAL DIAGNOSIS

It is obvious that all forms of encephalitis present more or less similar clinical pictures. Attention has been called in a preceding paragraph to the association

of encephalitis with various acute infections. The diagnosis of our cases of encephalitis associated with measles was based almost exclusively on the manifestations of encephalitis occurring during or shortly after an attack of measles. Indeed, there was nothing in the clinical picture alone to rule out epidemic encephalitis definitely. It may be noted, however, that the onset was more sudden, and, with one exception, the duration was much shorter than is usually the case in epidemic encephalitis.

REPORT OF CASES

Six cases will be described briefly in order to illustrate somewhat the clinical picture and course of the disease.

CASE 1.—G. I., a girl, aged 6 years, seen, March 20, 1926, had been suffering from measles for one week. Two days after the onset of the measles, she was seized with convulsions, which were followed by apathy deepening into stupor. The examination showed the patient to be acutely ill and still in a semistuporous condition. The temperature was 102 F., the pulse 120, and the respiration 28. There was a questionable Kernig sign. The pupils were rather small but reacted to light. The patellar reflexes were exaggerated. The abdominals were absent. The Babinski reflex was negative but there was a positive Oppenheim sign on the left side. Lumbar puncture yielded 20 cc. of clear fluid under moderately increased pressure. There was a large increase in cells, mostly mononuclears. There was a moderate increase in albumin and globulin. The Fehling's reduction for sugar was normal. Both the smear and the culture were negative for organisms.

Spinal Fluid Examination

Case	Amount of Fluid, Cc.	Appearance	Cytology	Bacteriology	Albumin	Globulin	Sugar
1	20	Clear	Large increase of mononuclears	Negative	++	++	+++
2	30	Clear	Slight increase of mononuclears	Negative	+	+	+++
3	15	Blood tinged with web	Mostly red blood cells	Negative	+1	+1	+++
4 (*a*)	30	Clear	3 mononuclears	Negative	++	+	+++ (57 mg.)
(*b*)	..	Clear	12 mononuclears	Negative	+	+	+++
(*c*)	15	Clear	8 mononuclears	Negative	±	±	+++
5	24	Clear	3 mononuclears	Negative	+	..	+++
6	30	Clear	15 mononuclears	Negative	+	+	+++ (84.2 mg.)
7	15	Clear	Normal	Negative	+	+	+++
8	20	Clear	87 mononuclears	Negative	+1	+1	+++
9	20	Clear	Slight increase of mononuclears	Negative	±	±	+++
10	15	Clear with web	Large increase of mononuclears	Negative	+1	+1	+++
11	15	Clear	Normal	Negative	±	±	+++
12	5	Blood tinged	Red blood cells	Negative	±	±	+++

Lumbar puncture was followed by an immediate improvement, especially in the mental condition. At the end of a week the child had practically recovered. This case seems to illustrate a fairly typical clinical picture and course.

CASE 2.—I. D., a boy, aged 3 years, was suddenly taken ill with headache and vomiting nine days after an attack of measles. He did not have fever but was apathetic. At times, however, he was quite irritable. The bowels were constipated, but there were no bladder symptoms. Physical examination did not show anything striking. He was, however, definitely apathetic, and had a positive Babinski reflex on his left side. On lumbar puncture, 30 cc. of clear fluid were obtained under increased pressure. The fluid showed a slight increase in cells, mostly mononuclears. The albumin and globulin were also slightly increased, and Fehling's reduction was normal. After an illness of a few weeks, the boy made a perfect recovery.

This was undoubtedly a mild case of encephalitis following an attack of measles. It should be noted that there was an interval of nine days between the measles and the encephalitis.

CASE 3.—E. H., a boy, aged 7 years, was taken ill suddenly, April 27, 1926, with headache, convulsions, and a fever of 102 F. Shortly after the onset of this illness he developed a spastic paralysis of the left arm. Six days prior to this illness he had an attack of measles. When we saw him, April 30, he was quite apathetic. His temperature was 100.4 F., pulse 120 and respiration 28. Hyperesthesia was marked. There was a positive Kernig sign on the right side and also a positive Brudzinski sign. The Babinski sign was questionable. There was a definite spastic paralysis of the left upper extremity.

Lumbar puncture yielded 15 cc. of slightly blood tinged fluid, which showed a moderate increase in albumin and globulin and a normal Fehling's reduction. Smear and culture were negative for organisms.

May 3, the child had completely recovered. The paralysis of the left arm had cleared up, and he seemed to be perfectly normal in every way.

This case illustrates some interesting points. It shows that one cannot be guided by the severity of the case in determining the prognosis. The child certainly was very ill and yet made an uneventful recovery. It is also obvious that the total duration of the illness may be very brief.

CASE 4.—W. F., a boy, aged 20 months, had measles, Jan. 11, 1926. This was followed by bronchitis, for which he was admitted to a hospital, January 23. On January 26, he developed weakness and spasticity of the left upper and lower extremities. After a few days the left arm became definitely paralyzed, and there also developed paresis of the left half of the face. On examination, the child was very apathetic. When aroused, he was irritable. The neck was slightly rigid. The pupils were small and reacted to light. The deep reflexes were normal on the right side and exaggerated on the left side. The abdominals were absent on both sides. There were no pathologic reflexes. There was a spastic paralysis of the left arm and paresis of the left side of the face and left lower extremity. The fundi were slightly hazy. There was a low irregular fever throughout the illness.

Three lumbar punctures were performed. The first two fluids did not show increase in cells; there was a slight increase in albumin and globulin and a normal Fehling's reduction. Smear and culture were negative for organisms. The third fluid was normal in every respect. Both the spinal fluid and the blood Wassermann test were negative.

The child was ill for about three weeks, during which period his condition remained unchanged. He died, February 11.

Although the clinical course was not by any means stormy, the result was fatal.

CASE 5.—T. S., a boy, aged 2½ years, seen, Jan. 26, 1926, had begun having measles on the 15th. Five days later meningeal symptoms developed. These consisted of severe convulsions, vomiting and fever up to 105 F. There was also apathy and incontinence of urine.

When examined, January 26, there was no stiffness of the neck, Kernig sign or Brudzinski sign. The pupils were equal and reacted to light, but the child was apparently blind. He was also unable to speak. There was a right facial palsy and also a paralysis of the right external rectus muscle. The deep and superficial reflexes were abolished and there were no abnormal reflexes. The temperature was 105 F., the pulse 120 and the respiration 40.

During the examination, convulsions occurred. These involved both arms and the face, but not the legs. Several spinal fluids were examined during the illness. The results were normal except for a slight increase in protein. The child died, January 27.

This case illustrates an unusually severe type of the disease.

CASE 6.—S. R., a boy, aged 5 years, had suffered from an attack of measles, from which he had made a good recovery and had been well for three days. On the fourth day of his convalescence (May 3, 1926) he suddenly had a convulsive seizure, and then went into a deep coma. This was accompanied by high fever. He apparently had a slight headache for a short period preceding this explosive onset.

On examination about five hours after the onset, the child appeared so ill that it seemed as if a fatal outcome were imminent. He was in a deep stupor and was markedly cyanosed. He had twitchings of the right side of the face and the right arm. There was no rigidity of the neck, Kernig sign or Brudzinski sign. There was a positive Babinski reflex on the right side. All the deep and superficial reflexes were present. There was a nystagmoid movement of the eyes to the left. The pupils were widely dilated and did not react to light. The lungs presented the signs of pulmonary edema. The temperature was 104 F. and the pulse 120; the respirations were Cheyne-Stokes in character.

A lumbar puncture perfomed shortly after the onset yielded a normal fluid. The following day the child was definitely improved. The temperature dropped to normal and the child regained a certain degree of consciousness. This improvement, however, was of very short duration. Within twenty-four hours the temperature rose and the child lapsed into deep coma again.

May 6, a second lumbar puncture yielded 30 cc. of clear fluid. This showed 15 mononuclears, a slight increase in protein, and a rather high sugar content (84.2 mg. per hundred cubic centimeters). There were no organisms on smear or culture.

Within two or three days the clinical picture changed decidedly. The child's mind appeared blank, and his eyes showed a meaningless and aimless stare. At the same time he was extremely restless and hyperactive. He constantly tossed about and made repeated efforts to scale the crib. He vigorously and violently resisted all attempts to restrain him. He showed definite negativism, and refused to take nourishment. As a result gavage feeding was resorted to. Except for an occasional shrill cry, he was speechless. He had a low, irregular fever. A few days later another complication appeared. He began to have frequent petit mal seizures. This hectic clinical picture persisted for about two weeks. Then the temperature dropped to normal and he began to take food by mouth. The restlessness abated somewhat. The petit mal seizures, however, persisted, though they became less frequent. He began to show some interest in his surroundings, and would follow his mother around. At the same time he began to utter a few words. At this point his progress ceased and for the succeeding few months his condition remained practically unchanged. At the last examination he was in excellent condition physically but seemed to have improved very little mentally. He was still restless and apparently unaware of his surroundings. Some of his memory associations, however, have been restored. He would frequently sing an isolated line of an old favorite song and would repeatedly call out his teacher's name. He would also call for his mother or father occasionally. His speech was thus limited to a few isolated phrases and words, pronounced rather indistinctly. He did not seem to understand when spoken to, nor did he seem to be able to interpret objects. The petit mal seizures still recurred at vatying intervals. At that time it seemed to us that the boy was destined to remain a mental defective.

We have cited this case in detail in order to illustrate some interesting and important points. This was by far the most severe and malignant form of the disease which did not end in death. It was the only case that ran a chronic course. A third point of importance is the apparent extensive injury to the brain as shown by the present clinical picture. Although it is difficult to give a definite and accurate prognosis, it seems as if the mental changes in this case will be permanent.

COMMENT

Of the twelve patients that we have seen with this disease, three died, a mortality of 25 per cent. Seven of the nine who recovered were followed up. All except the one just cited made a complete recovery.

It seems fairly certain that an acute encephalitis is occasionally closely associated with various acute infections, especially measles. Whether or not this encephalitis bears any relation to the epidemic form it is at present impossible to say. It is true that all these cases that we have recorded have occurred since 1918. It is possible that physicians have taken more interest in such conditions on account of the discussion stimulated by the prevalence of epidemic encephalitis. It is obviously impossible to make a definite statement as to the etiology and pathology of this condition. The subject certainly merits further study.

SYSTOLIC BLOOD PRESSURES OF HEALTHY ADULTS IN RELATION TO BODY WEIGHT

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This study was undertaken largely because of the general interest which the subject of overweight is now attracting, but also in order to compare data obtained in the southeastern part of the United States with somewhat similar data recorded in the Philippine Islands by Siler.[1] In the latter review the statement is made that there is a significant correlation between underweight and low systolic blood pressures on the one hand, and overweight and high systolic blood pressures on the other. In a brief statement as to the results of the annual examinations of 12,000 army officers in 1923,[2] the conclusion is also reached that there is a significant correlation between overweight and arterial hypertension.

The data that form the basis for the present study were largely obtained from the reports of physical examinations of 1,332 officers, field clerks and warrant officers of the fourth corps area (comprising the Southeastern states). There are also included data taken from reports of examination of reserve officers applying for appointment or for promotion, when such physical examinations were made by the same medical personnel in general as conducted the annual physical examinations. These physical examinations were made by a number of medical officers of the army, but the great majority of them were made by four specially appointed boards of officers in the four larger stations of the corps area. It is believed that these examinations were all made with sufficient care to make it improbable that there are any systematic errors in the figures. It is possible that there are a few duplications of data, as all the physical examination reports passing through my hands between August, 1925, and May, 1926, were abstracted. But these duplications are few, due to chance only, and probably do not have any appreciable influence on the general results. The great majority of the reports were on annual physical examinations made early in 1926, and a considerable proportion were made by one board of officers at Fort Benning, the largest station in the corps area and also the site of the infantry officers' school.

Mercurial sphygmomanometers were used in most of the examinations. All aneroid instruments in use at the various stations are required to be tested in the corps area laboratory semiannually, so that inaccuracies due to defective instruments are at a minimum. Practically all the blood pressure readings were made by some one member of the respective examining boards for the various stations. Errors due to the personal

1. Siler, J. F.: Review of the 1924 Annual Physical Examination of Officers on Duty in the Philippine Islands, Military Surgeon 56:745 (June) 1925.
2. Army Medical Bulletin No. 8, Oct. 15, 1923, p. 225.

equation are therefore considered to be comparatively negligible.

The largest source of error lies in the fact that many people are nervous and excited at the time of a physical examination, whether the latter is the annual examination or whether it is for promotion or appointment. In such persons systolic blood pressure is inclined to be temporarily increased. Among the few instances, in the series of persons studied, in which, because of hypertension, blood observations were made on some one individual over a period of days, a variation of as much as 10 mm. of mercury was occasionally found from day to day, the highest reading often being the first one. This is an unavoidable source of error in studying any sample of blood pressure readings; but as no better figures are available than single observations on healthy persons in so large a group, the data are given for what they are worth.

After the data on the 1,332 cases had been collected, each one was recorded as overweight or underweight by percentage, based on Symonds' table of height and weight for different ages.[3] Likewise, the percentage above or below the normal blood pressure was computed for each individual, the normals which were used being the same as those suggested by Siler.[1] Percentages rather than absolute numbers were used, for there is an appreciable difference in the relative importance of a certain number of pounds over or under weight, depending on whether the optimal weight for that individual is at one or the other end of the scale. Table 1 is the correlation table for the figures thus computed.

From table 1 it was determined that the mean weight of the 1,332 men examined was 2.87 per cent $\pm$ 0.3 per cent below the normal for height and age as given in Symonds' table, and that the mean blood pressure (systolic) was 2.71 per cent $\pm$ 0.2 per cent below normal according to the standard used by Siler. It can also be seen that 67 per cent of all examinees were below normal in blood pressure. However, allowing 5 per cent deviation from the exact normal, there were 42 per cent below normal, 44 per cent normal and 14 per cent above normal, as compared with the corresponding figures 54, 31 and 15 per cent of Siler. As the latter figures were obtained from the examination of 664 officers in the Philippines, and as it is generally accepted that systolic blood pressures are lower in the tropics in the same individuals than in colder climates, it would appear that this effect of the tropics is exerted rather on normal or subnormal blood pressures than on cases of hypertension. In the Philippine series the mean systolic blood pressure was 4.9 mm. of mercury below the normal as suggested by Siler. In the series of 1,332 in the fourth corps area the mean blood pressure was found to be 124.46 mm. As this was 2.71 per cent below normal, the normal for the fourth corps area appears to be 127.9 mm. $\pm$ 0.3 mm. If we can assume that this is the normal in the Philippine series, then the 4.9 mm. below normal there represents — 3.9 per cent, as compared with — 2.7 per cent in the fourth corps area. However, no conclusion can be drawn on so small a number of samples.

Computing the coefficient of correlation, it is found to be 0.14 ± 0.03 standard deviation. Making the same computation on Siler's table, the result is $r = 0.26 \pm 0.04$; but in the latter case, absolute figures rather than percentages form the basis of the table. There is a difference of 0.12 ± 0.05 in these two coefficients. This difference is of significance, probably because of the different methods of computation as noted above, and possibly also because one set of observations was made in the tropics. Neither correlation is high; both are significantly greater than zero in terms of the standard deviation. However, the correlation on the 1,332 observations is much lower and considerably less significant statistically.

In a similar manner the additional correlations given in table 2 were computed from the same set of data.

TABLE 1.—*Correlation Between Weight and Systolic Blood Pressure Each Expressed in Percentages Above or Below Normal*

Blood Pressure, Percentage Above or Below Normal	Weights: Percentage Below Normal							Weights: Percentage Above Normal															Total
	30-34	25-29	20-24	15-19	10-14	5-9	0-4	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	
−(25-29)	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
−(20-24)	..	1	2	..	4	2	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12
−(15-19)	..	3	5	9	12	5	8	8	4	3	1	..	1	..	..	..	..	..	..	..	..	..	59
−(10-14)	2	4	12	22	19	24	30	17	12	11	2	3	..	..	..	..	..	..	..	..	..	..	158
− (5- 9)	1	3	8	32	49	60	57	51	39	19	6	3	2	2	..	..	..	..	..	..	..	..	332
− (0- 4)	1	1	6	36	49	61	51	45	33	21	15	7	4	2	..	..	..	..	..	1	..	2	335
+ (0- 4)	1	1	6	24	30	40	37	43	27	16	8	6	4	..	..	1	..	..	..	..	..	..	244
+ (5- 9)	..	..	3	6	12	20	14	14	8	7	5	..	..	2	1	3	1	..	..	..	..	..	96
+(10-14)	1	..	2	4	5	10	7	10	8	2	1	1	..	1	..	..	..	..	..	..	..	..	52
+(15-19)	..	..	1	..	..	2	4	3	1	1	..	..	..	1	..	..	..	..	..	..	..	..	13
+(20-24)	1	..	..	1	5	3	1	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	14
+(25-29)	..	..	..	1	..	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	4
+(30-34)	..	..	..	..	..	..	2	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	5
+(35-39)	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	2
+(40-44)	..	..	..	..	..	1	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	3
+(45-49)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0
+(50-54)	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Total	7	14	45	135	185	229	215	195	137	81	39	22	11	8	1	4	1	0	0	1	0	2	1,332

TABLE 2.—*Additional Correlations*

Weight (percentage above or below normal, with systolic blood pressure, mm. of mercury)	$r = 0.15 \pm 0.03$
Weight (per cent), with age	$r = 0.05 \pm 0.03$
Blood pressure (per cent), with age	$r = 0.02 \pm 0.03$
Blood pressure (per cent), with chest (rest)	$r = 0.10 \pm 0.03$
Blood pressure (per cent), with height	$r = 0.03 \pm 0.03$

Only two of these show the slightest statistical significance; namely, that between weight and blood pressure expressed in millimeters of mercury, and that between blood pressure expressed in per cent and chest measurement at rest. In the former case the correlation coefficient is about the same as when percentage of blood pressure above and below normal was used instead of absolute numbers. In the latter case, correlation is less than that between weight and blood pressure (percentages) and would seem to indicate that

3. As quoted in reprint 7 from the Army Medical Bulletin, Nov. 15, 1922.

chest measurements correlate with blood pressure only so far as they increase with weight.

The various means were determined to be as in table 3.

TABLE 3.—*Means*

Mean blood pressure	—2.71 per cent	± 0.2
Mean weight	—2.87 per cent	± 0.3
Mean height	68.94 inches	± 0.06
Mean age	36.5 years	± 0.24
Mean blood pressure	124.46 mm.	± 0.34

A rather striking feature of the correlation table (table 1) is the fact that the upper left hand portion of the table shows greater frequencies and less scattering than the lower right quadrant. Allowing a range of 10 per cent above and below weight as normal, and 5 per cent above and below for blood pressure, it is seen that of 386 who are underweight, 189 (49 per cent) have a blood pressure more than 5 per cent subnormal. On the other hand, of 170 who are above normal weight, only thirty, or 18 per cent, are above normal in blood pressure.

TABLE 4.—*Classification of Overweights, Underweights and Normals as to Blood Pressure*

		Blood Pressure					
		Above Normal		Normal		Below Normal	
Weight	Total						
Over	170	30	18%	87	51%	53	31%
Normal	776	118	15%	337	43%	321	42%
Under	386	42	11%	155	40%	189	49%

The correlation table for weight (percentage above and below normal) with blood pressure (millimeters of mercury) is here given as table 5, in order to show a few items of interest.

As can be seen in table 5, there were eighty-five whose blood pressures were below 110. Of these, forty-five, or 53 per cent, are in men who are more than 10 per cent underweight. On the other hand, of the 106 who have blood pressures over 140, only fifteen, or 14 per cent, are overweight (more than 10 per cent), and twenty-two, or 21 per cent, are underweight. Table 6 shows the complete distribution.

It seems safe to say that table 6 points to the conclusion that hypotension may be more closely associated with underweight than hypertension is with overweight. Opinions are not unanimous as to the significance of hypotension, nor even that it is always a manifestation of a diseased bodily state. According to Fossier,[4] physical and mental exhaustion, with lack of endurance, are associated with hypotension, and therefore underweights should receive as much attention as overweights, if not more, since a considerably greater proportion of them have hypotension or hypertension than have the overweights.

TABLE 6.—*Classification of Cases of Hypotension and Hypertension as to Weight*

Blood Pressure	Total	Underweight		Normal Weight		Overweight	
Under 110	85	45	53%	35	41%	5	6%
Over 140	106	22	21%	69	65%	15	14%

COMMENT

Any conclusion that can be drawn from such a study must necessarily be a guarded one, even if the sample is a large one. It is not improbable that a large number of samples would differ more among themselves than by mere chance fluctuations. In fact, the two other samples spoken of each show a much higher coefficient of correlation, although the data were not analyzed in the same manner that the sample under discussion has been. A slight but statistically significant correlation between systolic blood pressure and the weight of a number of healthy persons has been found, but on further analysis it appears probable that much of that correlation is due to the fact that underweight and hypotension are much more closely associated than overweight and hypertension.

It is not at all certain that the tables of weight as computed for age and height and for blood pressure depending on age are correct. With the paucity of data at hand on which to base a table, it is not surprising that there should be differences.

The method of Dreyer[5] probably yields a more scientific table, but the measurements required are such as are not ordinarily obtained, and would therefore require considerable additional time. The correlation tables constructed in this study seem to indicate that the corrections of weight for age and height, and those of systolic blood pressures for age, are approximately correct; that is, one would expect such changes to take place with the inevitable slowing up of activity which accompanies age, and with the probable gradual change in the endocrines.

TABLE 5.—*Correlation Between Weight (Per Cent Above and Below Normal) and Systolic Blood Pressure (Millimeters of Mercury)*

Blood Pressure, Millimeters of Mercury	Weights: Percentage Below Normal							Percentage Above Normal															Total
	30-34	25-29	20-24	15-19	10-14	5-9	0-4	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	
90- 99	..	..	2	..	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6
100-109	..	6	7	14	13	9	13	8	4	4	..	..	1	..	..	..	..	..	..	..	..	..	79
110-119	2	6	16	47	62	80	74	56	32	23	7	7	2	3	..	..	..	..	..	..	..	..	417
120-129	1	..	10	51	63	80	80	82	60	32	19	10	4	2	..	..	..	..	..	1	..	1	496
130-139	2	2	7	19	31	41	34	29	24	17	9	2	4	2	1	4	..	..	..	..	..	..	228
140-149	1	..	2	2	6	12	7	13	9	2	3	1	..	1	..	..	1	..	..	..	..	1	61
150-159	1	..	1	1	4	4	2	4	3	3	..	..	..	..	..	..	..	..	..	..	..	..	23
160-169	..	..	..	..	1	1	4	2	5	..	..	..	..	..	..	..	..	..	..	..	..	..	13
170-179	..	..	..	1	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
180-189	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	2
190-199	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	2
200-209	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Total	7	14	45	135	185	229	215	195	137	81	39	22	11	8	1	4	1	0	0	1	0	2	1,332

SUMMARY

1. Data as to height, weight, age, chest measurements (at rest) and systolic blood pressures were obtained from the physical examinations of 1,332 healthy men

4. Fossier, A. E.: Am. J. M. Sc. **171**: 496 (April) 1926.

5. Dreyer: The Assessment of Physical Fitness, London, Cassell & Co., 1920.

who are residing, temporarily, in the Southeastern states.

2. The percentages above and below normal weight and blood pressure for each individual were computed, Symonds' table being used as a standard for the weight and Siler's table for blood pressure.

3. The coefficient of correlation was computed for the following, with results interpreted as indicated:

(*a*) Weight (percentage above and below) with systolic blood pressure (percentage above and below; slight statistical significance).

(*b*) Weight (percentage above and below) with systolic blood pressure (mm. of mercury; slight statistical significance).

(*c*) Weight (percentage) with age (no significance).

(*d*) Blood pressure (percentage) with age (no significance).

(*e*) Blood pressure (percentage) with chest measurement (at rest; very slight statistical significance).

(*f*) Blood pressure (percentage) with height (no significance).

4. What little statistical significance attaches to the correlation coefficient is to a considerable extent due to the fact that while 49 per cent of those who are more than 10 per cent underweight have subnormal blood pressures, only 13 per cent of those overweight have hypernormal pressures.

5. Classifying blood pressures into two classes, those over 140 and those under 110, it is shown that 22 per cent of the former are underweight and 14 per cent overweight. Those with hypotension are 53 per cent underweight and 6 per cent overweight.

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CALCIUM CARBONATE IN TREATMENT OF GASTRIC HYPERACIDITY SYNDROME

AND IN GASTRIC AND DUODENAL ULCER

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The use of alkalis or the so-called antacids in the gastric hyperacidity syndrome is very old. The alkalis are used for the purpose of giving relief from the pain commonly experienced by patients with gastric or duodenal ulcer, and to promote healing of the ulcer. The most popular remedy of this type at the present time is sodium bicarbonate. Sippy [1] recommended in place of this his much used two powders, the first of which contains 0.7 Gm. (10 grains) each of heavy magnesium oxide and sodium bicarbonate, and the second, to be used alternately with the first, 0.7 Gm. (10 grains) of bismuth subcarbonate and from 1.2 to 1.8 Gm. (20 to 30 grains) of sodium bicarbonate. At another time Sippy recommended 0.7 Gm. (10 grains) of calcium carbonate in place of the bismuth subcarbonate in the second powder. Other similar powders containing one or more of these constituents have been employed. We present the results of a long clinical and personal experience with these materials in the light of present knowledge of their pharmacology. These drugs are used to so great an extent that their relative advantages and disadvantages should be clearly pointed out.

The ideal antacid is one having the following properties: 1. It is insoluble. 2. It does not have an irritating action on the stomach or intestines. 3. It is neutral in aqueous suspension, but capable of neutralizing acid. 4. It does not alter unduly the acid-base equilibrium in the body. 5. When taken in any reasonable amount it will not alkalize the urine with the attendant danger of precipitating phosphates in crystalline form in the kidney or ureter. 6. It will not cause diarrhea or constipation. 7. It will not cause any serious alteration of the mineral metabolism. In brief, the ideal antacid is a substance that may be taken by a patient over a long period of time in amounts sufficient practically to maintain gastric neutrality without producing any deleterious by-effects. Let us examine from these points of view the materials that have been suggested.

SODIUM BICARBONATE

Sodium bicarbonate is soluble in water; it is irritating in high concentrations; it is absorbed when taken in excess and produces alkalosis. It alkalizes the urine and occasionally causes the precipitation of phosphates in crystalline form in the urine in the pelvis of the kidney, ureter or bladder. One of us (A. S. L.) observed two severe attacks of "renal colic" in a single patient due to the formation of clusters of phosphate crystals which caused gross hemorrhage and pain that could not be controlled with morphine. The "gravel," from 3 to 4 mm. in diameter, was analyzed and found to consist solely of crystals of phosphates with a small amount of coloring matter. The crystals were exceedingly sharp. The urine was strongly alkaline from the doses of sodium bicarbonate required to allay the pain of a duodenal ulcer. In the ten years that have elapsed since this patient used sodium bicarbonate there has not been a subsequent attack of renal colic. Others [2] have observed a tendency under the Sippy treatment to form renal calculi. It has been noted [3] that sodium bicarbonate, in about one-half the patients examined, causes a rebound in gastric acidity to a point higher than would have been attained had the alkali not been administered. The tendency of patients suffering with ulcer and treated with sodium bicarbonate, either alone or with other alkalis, to develop alkalosis and a lowering of the plasma chlorides has been noted by several clinical observers.[4] Probably the reason so much sodium bicarbonate is used is that this material is accessible and the "soda-mint" is a convenient article for a person to carry with him. From the point of view of prolonged relief from ulcer pain it is certainly not the drug of choice, since the acidity of the gastric contents soon returns to the previous level with a return of pain, so that more soda is required. Also, from a consideration of the disagreeable side effects, soda cannot be recommended in these conditions.

The reasons sodium bicarbonate should not be used as an antacid in ulcer cases are as follows:

1. Relief from pain is quite temporary.

2. It is irritating in the concentration often used by patients.

3. It is soluble, so that it is impossible to regulate the concentration in the stomach and thus assure the minimum amount required to neutralize the gastric acidity.

1. Sippy, B. W.: Gastric and Duodenal Ulcer: Medical Cure by an Efficient Removal of Gastric Juice Corrosion, J. A. M. A. **64**: 1625 (May 15) 1915.

2. Schrijver, J.: The Sippy Treatment for Gastric Ulcer, Nederl. Tijd. v. Geneesk. **2**: 1757 (Oct. 17) 1925; abstr. J. A. M. A. **85**: 1848 (Dec. 5) 1925.

3. Lockwood, B. C., and Chamberlin, H. G.: The Effect of Alkalis on Gastric Secretion and Motility as Measured by Fractional Gastric Analysis, Arch. Int. Med. **32**: 74 (July) 1923.

4. Jordan, Sara M.: Calcium, Chloride and Carbon Dioxide Content of Venous Blood in Cases of Gastroduodenal Ulcer Treated with Alkalis, J. A. M. A. **87**: 1906 (Dec. 4) 1926. Kast, Ludwig; Myers, V. C., and Schmitz, H. W.: Clinical Conditions of Alkalosis, ibid. **82**: 1858 (June 7) 1924.

The patient either receives too much or not enough in nearly every case.

4. An excess may cause alkalosis, altered concentration of the inorganic constituents of the blood, an alkaline urine, and occasionally the precipitation of crystals in the urine which traumatize the urinary tract.

MAGNESIUM HYDROXIDE AND CARBONATE

Magnesium hydroxide and carbonate have the advantage over sodium bicarbonate of low solubility. Their great disadvantage is their irritating action in the intestine and their consequent cathartic action. Ulcer patients very commonly have an irritable colon, and it is difficult to determine how much of their discomfort is due to the stomach and how much to the colon. When these patients require any saline cathartic, sodium phosphate is the drug of choice under usual conditions, and, above all, they should be able to take alkali without simultaneously taking a cathartic. There can be no doubt that the antacid and the cathartic should not be administered in a fixed ratio, such as exists in the Sippy powders—the principle is wrong.

BISMUTH SUBCARBONATE AND SUBNITRATE

Neither bismuth subcarbonate nor bismuth subnitrate is an antacid. They are merely inert insoluble powders. Of the two, the subcarbonate is the drug of choice because there is no danger of nitrite formation with possible deleterious action. These drugs are sometimes used to protect ulcerated surfaces. Their disadvantage is that they have no neutralizing power and they discolor the stool because of the formation of bismuth sulphide. Patients suffering from gastric or duodenal ulcer are frequently neurotic, and discoloration of the stool is just one more thing for them to worry about.

CALCIUM CARBONATE

Calcium carbonate administered alone is the ideal antacid for the following reasons: 1. When suspended in water it is neutral in reaction. 2. It is therefore only a "potential" alkali, but it neutralizes the gastric acid, forming calcium chloride and carbon dioxide. 3. It can be given almost ad libitum. If an excess is taken, it passes out in the feces. 4. It apparently has no effect on the activity of the bowel except that, if taken in excess, it increases the bulk of the stool. 5. When taken in excess it will coat over ulcerated areas and may in this manner protect them from the action of irritants. We have often observed that substances, such as acetylsalicylic acid, which cause marked gastric irritation in certain patients may be taken in large dosage without such irritation if given with calcium carbonate. In this case the calcium carbonate forms the calcium salt of acetylsalicylic acid, and converts any acetic acid produced by the hydrolysis of acetylsalicylic acid into calcium acetate, which is not irritating. Calcium carbonate is found in the London Pharmacopeia for 1650 as Creta Alba; it has been in the U. S. Pharmacopeia as Creta Praeparata since the first edition in 1820. It has never been used to the extent that it merits, and the reason it has failed as a popular remedy is probably to be found in the fact that it has been offered for sale only as a powder, and if taken into the mouth dry it is easily inhaled, causing coughing. At our request Hynson, Westcott and Dunning made compressed tablets of calcium carbonate which readily disintegrate in water. The tablets contain 0.7 Gm. of calcium carbonate (10 grains) and 0.0017 cc. (1/40 minim) of oil of cinnamon. The reason for adding the oil of cinnamon is to give a slight and pleasant flavor if the tablet is held in the mouth until disintegration. Plant and Miller [5] showed that from 5 to 25 cc. of cinnamon water caused a relaxation of the stomach wall and a decrease in the peristaltic contractions of the stomach in unanesthetized dogs, without modifying the rhythmic contractions. The relaxation lasted from five to thirty minutes. The presence of food in the stomach did not modify the action of the carminative used.

We were interested in ascertaining how much calcium carbonate would be required to neutralize the amount of hydrochloric acid found in the normal stomach or in the hypersecretory type. One gram of calcium carbonate will neutralize 0.73 Gm. of hydrochloric acid. The work of Fowler, Rehfuss and Hawk,[6] Talbot,[7] and Fowler and Zentmire [8] gives an analysis of the fasting morning content of the stomach (residuum) in more than two hundred normal cases. From Lim, Matheson and Schlapp,[9] Matheson and Ammon,[10] Dobson [11] and Delhougne,[12] we have obtained data on the basal or continuous secretion in twenty-eight normal cases. In addition, we have made sixteen analyses of both residuum and basal secretion in seven normal subjects. The average residuum contains approximately 36 mg. of hydrochloric acid, requiring 0.049 Gm. of calcium carbonate for its neutralization. The maximum amount of free hydrochloric acid present in any residuum was 0.375 Gm., which would be neutralized by 0.514 Gm. of calcium carbonate. The average basal secretion is approximately 16 mg. of free hydrochloric acid in ten minutes, while the maximum basal secretion which we found was 74 mg. of free hydrochloric acid in ten minutes. Thus, 1 Gm. of calcium carbonate would neutralize the average basal secretion for seven hours, or would neutralize the maximum basal secretion for one hour and forty minutes. Carlson [13] states that "if one studies a large group of persons, otherwise normal, one encounters all the variations in gastric secretion seen in the sick, except possibly the degree of hypersecretion associated with obstruction at the pylorus." We believe that the maximum figures for residuum and basal secretion given above would seldom be exceeded in cases of the hyperacidity syndrome. Since an excess of calcium carbonate does no harm, and indeed is probably beneficial, these basal rate figures should be exceeded.

SUMMARY

Calcium carbonate used without any other inorganic salt is the best antacid for use in the gastric hyperacidity syndrome, and in gastric and duodenal ulcer, for the following reasons:

1. It is exceedingly bland.
2. It is insoluble, being only a potential alkali; i. e., an alkali in the presence of acids stronger than carbon dioxide.

5. Plant, O. H., and Miller, G. H.: Effects of Carminative Volatile Oils on the Muscular Activity of the Stomach and Colon, J. Pharmacol. & Exper. Therap. **27**: 149 (March) 1926.
6. Fowler, C. C.; Rehfuss, M. E., and Hawk, P. B.: An Investigation of the Gastric Residuum of Over One Hundred Normal Cases. J. A. M. A. **65**: 1021 (Sept. 18) 1915.
7. Talbot, E. S., Jr.: The Examination of Normal Gastric Secretion by the Fractional Method, J. A. M. A. **66**: 1849 (June 10) 1916.
8. Fowler, C. C., and Zentmire, Zelma: A Study of Eighty Samples of Gastric Residuum Obtained from Apparently Normal Women, J. A. M. A. **68**: 167 (Jan. 20) 1917.
9. Lim, R. K. S.; Matheson, A. R., and Schlapp, W.: Observations on the Human Gastroduodenal Secretion with Special Reference to the Action of Histamin, Quart. J. Exper. Physiol. **13**: 361, 1923.
10. Matheson, A. R., and Ammon, S. E.: Observations on the Effect of Histamin on the Human Gastric Secretion, Lancet **1**: 482 (March 10) 1923.
11. Dobson, H. V.: Effect of Histamin on Gastric Secretion, J. A. M. A. **84**: 158 (Jan. 17) 1925.
12. Delhougne, F.: Ueber Salzaure und Chlorkonzentration im reinen Magensaft, Deutsches Arch. f. klin. Med. **150**: 70 (Jan.) 1926.
13. Carlson, A. J.: The Secretion of Gastric Juice in Health and Disease, Physiol. Rev. **3**: 29 (Jan.) 1923.

3. It is without effect on the bowel.

4. It causes the minimum disturbance of the acid-base equilibrium of the body and of the mineral metabolism.

For these reasons it is superior to sodium bicarbonate, magnesium carbonate or magnesium hydrate. It is practically foolproof in the hands of the patient. It is best used in the form of compressed tablets which disintegrate readily and which contain a very small amount of a carminative, such as oil of cinnamon.

HEALTH OF A CARNIVOROUS RACE

A STUDY OF THE ESKIMO

WILLIAM A. THOMAS, M.D.

CHICAGO

In view of the present trend of thought away from the former conception of nephritis as a purely renal disease, and bearing in mind particularly the revision of attitude toward the rôle of protein, especially of animal origin, in the production of renal and vascular disease, I considered it worth while to make a cardiovascular and renal survey of a group of people subsisting exclusively on meat. The opportunity presented itself during the MacMillan arctic expedition of 1926, where we were in close contact with the Eskimos of northern Labrador and of Greenland.

Furthermore, since the vitamins have assumed a position of such medical and economic importance, and their sources are as yet not wholly understood, evidences of scurvy and rickets were sought and an examination was made of food sources and of food composition and preparation when these conditions were found.

Information was obtained from two sources: by personal observation and examination of Eskimos, and from the medical records and knowledge of the Danish physicians in Greenland. Denmark owns Greenland and exerts a benevolent control over the natives, supplying, among many other things, excellent hospitals and physicians in a number of the settlements in southern and central Greenland. In the northern portion there are no settlements and the Eskimos are virtually isolated, seeing only an occasional explorer or Danish trader. It was through these Danish physicians that I had the opportunity of examining a large number of Eskimos under hospital conditions with laboratory facilities at hand, as well as examining hospital records for many years to ascertain the frequency of the diseases that I was studying.

These settlements are the capitals of the provinces, having a governor and his family, a preacher, a physician and several other officials, totaling from twenty to perhaps forty Danes. Some Eskimos are employed as house servants and laborers and have access to some European food, though in most cases it is very little. Aside from these, all Eskimos live, and have done so since being weaned, on an exclusively carnivorous diet, if fish is included. There is no edible vegetation. Their diet includes the meat of whale, walrus, seal, caribou, musk ox, arctic hare, polar bear, fox, ptarmigan, and the numerous sea birds, geese, duck, auks, gulls and a variety of others, and, finally, fish, all eaten usually (and preferably) raw. Contrary to general opinion, the Eskimo eats relatively little fat or blubber. This portion is used for its oil, in lighting and warming the domiciles, in melting ice and snow for drinking, and to a much less extent in cooking food. He much prefers red meat, eating the flesh and liver. With inadequate supply he eats everything, including entrails—these usually being the portions for the dogs. For some reason, polar bear liver is poison; numerous experiences attest this fact, and the dogs, even though starving, will leave it untouched.

These people, then, were examined for evidences of renal and vascular disease. Ages are difficult to determine, as few can count, and they do not keep an exact record of their years. Often it was fixed with relation to some known event, such as the presence on their shores of a certain boat or person. However, we chose adults, male and female, excluding those who had been for any time in the Danish settlements, and examined them as carefully as the circumstances and facilities permitted. At times the Danish physician would herd in practically every adult in the settlement and we would have complete examinations in the hospital. At other times it was done aboard the *Bowdoin*, in the forecastle, or even on deck, stripped to the waist, and smiling; or, again, ashore in a rock or skin hut.

The results show conclusively that there is no unusual prevalence of vascular or renal disease. Among 142 adults between the ages of 40 and 60 who were completely examined, the average blood pressure was 129 systolic and 76 diastolic. The highest pressure found was 170 systolic and 100 diastolic. There were eight others whose systolic pressures were above 140, of which six were below 150 and the other two below 160.

In the urine, albumin was found in twelve, excluding cases with pus and no clinical evidence of circulatory disease. Of these twelve, only three were of the group whose pressures were above 140 systolic. The other nine had traces or moderate amounts of serum albumin and no increased pressure.

Microscopic examinations could not be made in all these cases. Of the nine hypertensions and the nine of albuminuria without hypertension, casts were found in two of the three patients who had both hypertension and albumin, in two of the remaining six who had hypertension, and in three of the nine who had albuminuria with normal pressures. Of seventy-three more microscopic examinations of persons with neither albumin nor hypertension, four revealed casts.

Edema of undoubted nephritic origin was seen in only one case. This involved the exclusion of several cases due to cardiac disease, varicose veins and phlebitis.

Nine persons authentically reputed to be over 60 years old were examined, and in only one was there albumin in the urine; in two were casts found, and in none was the systolic blood pressure above 140.

Critical examination of records in 588 hospital cases showed on physical examination edema due to nephritis in seven cases, and death from cerebral accidents and nephritic coma in five. Unfortunately the total number of deaths was not counted, and these figures are not at present available.

These people lead a life of great physical activity, a large number of the men dying by violence, accident, starvation or freezing, before old age comes, exposed to the severest extremes of cold. They remain for hours and days in their kaiaks, separated from icy water by only a membrane of sealskin. They frequently alternate between feast (when they eat to capacity) and famine. In view of these things, together with their extraordinary strength and endurance, the men often traveling twenty-four and thirty-six hours continuously without rest or food, there can, I believe, be no other conclusion than that, under their conditions of life, an

exclusively carnivorous diet does not predispose to renal or vascular disease.

With regard to conditions ascribed to a vitamin deficiency, an interesting situation was revealed. Among these primitive, carnivorous people there is neither scurvy nor rickets. Children are nursed for four and not infrequently six years; that is, until their teeth are strong enough to eat meat. Both my own observations and the results of most careful questioning of the Danish physicians are definite and convincing on this point. In Labrador, however, a distressing condition prevails. There the natives have been for many years in somewhat close contact with the influence of civilization, and unfortunately have abandoned their primitive methods of existence. Other factors, however, are at work. Wood is abundant, so they cook their meat. The Moravian missions and the Hudson Bay Company, with the best of intentions, take their furs and sell them provisions—dried potatoes, flour, canned goods, cereals and cereal products—and their fare consists largely of these staples. And Labrador, while not truly arctic, offers very little return for the labor of a gardener, so there is no available source of vegetable food. Consequently, scurvy, rickets and combinations of the two are universal. In children one sees severe scurvy, with gums black, teeth dropping out, and hemorrhages of the skin and mucous membranes of decided severity. In adults, the same holds to a lesser degree, and in addition there is the rheumatic pain, stiffness of joints, and fatigue, so well recognized by the old whalers and explorers as their particular scourge. Rickets, in spite of months of almost constant sunlight, seems to be almost universal.

In view of the adequacy of animal tissues in supplying the vitamins, the question as to their source naturally arises. The birds eat fish, the polar bear eats seal, seal eats fish, walrus eats clams (a great delicacy for our crew was clam chowder from the contents of a walrus stomach), and the diet of the clam is open to speculation. The whale eats fish, and the raw skin of the white whale, which we found very palatable, is the antiscorbutic *par excellence*. Of course the caribou, hare, ptarmigan and musk ox eat the moss, lichen, grasses and sparse vegetation of the ground—willow and evergreen. At this point the answer lies with the fish. Of course, he eats some fish, but subsists largely on the marine vegetation, so the answer to the vitamin question apparently is solved by the scriptural saying "All flesh is grass." And to Stefansson must be given great credit for having promulgated the theory that a white man could go far out on the polar sea and there find animal life sufficient in quantity to supply his needs and of a quality to keep him well, for having the courage to stake all on the correctness of his theory, and for having returned as proof of it.

One more observation is of interest: The origin of the Eskimo, racially, is undetermined. Recently he has been considered a branch of the American Indian, as opposed to the time honored belief in his Asiatic origin. At present, the racial aspect of blood grouping is being tried, and the results may be so definite as to settle the question. However, the so-called Mongolian spot is present on practically every Eskimo baby, a stigma said to be confined to certain Asiatic races and absent in the Indian. And, finally, one sees an example of a primitive race, lacking hereditary immunity to disease and overwhelmed at times by epidemics of measles, influenza and the infections which we regard as minor, and in whom approximately one third of those living in southern Greenland in closer contact with outsiders have tuberculosis.

SUMMARY

The Greenland Eskimo, on a carnivorous diet, exhibits no increased tendency to vascular and renal disease. This diet furnishes him with vitamins adequate for protection against scurvy and rickets, while the Labrador Eskimo, whose meat is cooked and whose diet includes many prepared, dried and canned articles, is very subject to both these maladies.

122 South Michigan Avenue.

Clinical Notes, Suggestions and New Instruments

SKIN DISINFECTION, WITH ESPECIAL REFERENCE TO THE USE OF ACRIFLAVINE

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Numerous inquiries regarding details as to methods followed publication of our previous papers[1] and are the reason for this somewhat elementary article. Practically all is in answer to questions that have been asked, some of them many times.

First of all, we wish to correct an error resulting from oversight: "Neutral acriflavine" should read "acriflavine," as acriflavine was used in all the tests reported.

A 5 per cent acriflavine solution is used because we have found this the weakest percentage that can be relied on to kill many resistant, spore-forming bacteria. Fifty per cent alcohol is used as a solvent because acriflavine is only slightly soluble in stronger percentages of alcohol; moreover, histologic experience shows that weak solutions of alcohol penetrate best, and this probably accounts for the well known fact that weaker percentages of alcohol have greater antiseptic value. Acetone is added because it apparently adds somewhat to penetration.

THE SOLUTION

Acriflavine solution is best made freshly in the operating room and cannot be relied on if more than a week old or if any precipitate has formed. It is best kept in a dark-colored bottle away from the light, as light promotes chemical change.

Acriflavine Solution

Quantity of Solution Desired	Weight of Acriflavine in Gm. to Make 5 %	Number of 0.5 Gm. Powders
10 cc.	0.50 Gm.	1
20 cc.	1.00 Gm.	2
30 cc.	1.50 Gm.	3
40 cc.	2.00 Gm.	4
50 cc.	2.50 Gm.	5

A convenient way to make the solution is to have acriflavine put up in 0.5 Gm. powders, and prepare a stock solvent solution which can be used in the necessary quantity, the acriflavine being added to make a 5 per cent strength. To make a liter of stock solution, 100 cc. of acetone and 375 cc. of water are added to 525 cc. of 95 per cent alcohol. This solution contains 50 per cent alcohol and 10 per cent acetone. A sufficient quantity of powdered acriflavine is then added to the desired amount of solvent to make a 5 per cent solution. The accompanying table is convenient to have in the operating room, drug room or wherever the solution is made up.

Any amount of solution may be made by using several 0.5 Gm. powders or the weight of acriflavine corresponding

1. Tinker, M. B., and Sutton, H. B.: Inefficiency of Most of the Commonly Used Skin Antiseptics, J. A. M. A. **87**: 1347 (Oct. 23) 1926; Ann. Surg. **82**: 640 (Oct.) 1925.

to the amount of solvent chosen, according to the table. If more convenient, different units might be used; but we have found 10 cc. sufficient for painting two coats on a small operative field and 20 cc. ample for average operations, such as appendectomy, radical cure of hernia or thyroidectomy. Not only is the use of large swabs and too much solution a waste, but extensive staining makes unnecessary work for the laundry. Any druggist can readily weigh proper amounts for office, emergency, or small hospitals without a drug room.

It takes only a few moments to measure the desired quantity of solvent and add the corresponding number of 0.5 Gm. acriflavine powders as indicated in the table. After a few minutes the acriflavine is dissolved and the solution is ready for use. The method is simple, takes little time, and always provides a fresh solution.

WARD PREPARATION

Ward preparation seems to us indispensable if we are to take advantage of all possible means of securing a sterile operative field, yet fifty out of 203 representative surgeons who replied to our questionnaire state that they apply the antiseptic of their choice directly to the skin without preliminary scrubbing. This is illogical, for no antiseptic can kill bacteria unless it comes in contact with them and contact is frequently impossible when bacteria are embedded in the superficial epithelium, particularly in the presence of greasy sebaceous secretion deep in the hair follicles. The essentials of ward preparation seem to us to be: 1. Removal of hair by shaving or a depilatory. 2. Scrubbing with soap and moderately hot water at least five minutes by the clock in order to soften and remove the usually infected superficial epithelium; the lather is sponged away with sterile water. 3. Removal of any fat left by the soap with ether, which we believe to be most efficient, or some other fat solvent. 4. Sponging with alcohol for two or three minutes. A sterile dry dressing is applied, to be removed only after the patient is on the operating table. This preliminary preparation is usually done the morning of operation, from two and one half to four hours before the patient is taken to the operating room.

APPLICATION OF ACRIFLAVINE

When the patient is on the operating table, just before or after the anesthetic is started, the sterile dry dressing is removed and the operative area is again thoroughly scrubbed with ether. Gauze sponges are used with moderate friction for from three to four minutes by the clock. The last sponge should be clean and not show discoloration; i. e., oily substances on or in the skin must be thoroughly removed.

The acriflavine solution prepared as stated is painted on after the ether with a fairly small cotton swab, and is worked from the line of the incision concentrically outward until a wide area is prepared. The acriflavine solution is allowed to dry and a second coat is applied in the same manner; all acriflavine should be left on the skin, none being sponged away with alcohol as is sometimes done with iodine. It is entirely nonirritating and nonpoisonous. When the field is completely dry, the drapes are placed and the incision may be made.

POINTS TO BE EMPHASIZED

Although all details of the preparation as given are important, it seems well to call special attention to the following points:

1. Thorough mechanical cleansing of the skin with soap and water is imperative.

2. Liberal use of alcohol and ether or other efficient fat solvents with gauze and friction is necessary to remove all sebaceous secretion, grease or oil from the skin.

3. The last gauze sponge used before the application of acriflavine should come away from the skin without discoloration, thus giving evidence of a thorough mechanical cleansing.

4. The acriflavine solution must be fresh, and of 5 per cent strength.

5. A sponge or swab that has been used at or near the edge of the skin area being prepared should never be brought back to the center. One should always work away from the center or clean portion of the field to the periphery or dirty portion, whether the process at the moment is scrubbing with soap and water or painting with acriflavine.

6. All acriflavine painted on the skin must be left, not washed away with alcohol as is done with iodine. It is nonirritating to the skin.

This method is simple of application for patient, surgeon and hospital staff. This fact, considered with the fact that acriflavine is considerably more efficient as shown by bacteriologic check than any other antiseptic which has been thoroughly tested, has led us to adopt its use as routine and recommend it to others.

Savings Bank Building.

THE EARLY APPEARANCE OF GAMETOCYTES IN ARTIFICIALLY INDUCED TERTIAN MALARIA *

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In the course of routine examinations for *Plasmodium vivax*, used in the treatment of general paralysis, the early appearance of gametocytes was noted in a few instances. In six of our last cases of artificially inoculated malaria, we have obtained the data given in the accompanying table as to the time of the first appearance of gametocytes.

Appearance of Gametocytes

Patient	Date of Inoculation	Onset	Gametocytes First Observed	Gametocytes per 500 Leukocytes		Gametocytes Observed in Days After Onset
1	10/12/25	10/22/25	10/27/25	1.5	7.5	5
2	11/11/25	10/28/25	11/30/25	1.0	5	2
3	12/ 5/25	12/12/25	12/14/25	0.66	3.3	2
4	1/ 6/26	1/19/26	1/21/26	0.5	2.5	2
5	3/ 9/26	3/21/26	3/23/26	0.1	0.5	3
6	12/ 3/25	1/ 3/26	1/ 5/26	0.1	0.5	2

It is thus apparent that gametocytes of *Plasmodium vivax* are present in the infections produced by direct transfer of blood much earlier than in the generally accepted time of their appearance in naturally acquired malaria. Theoretically, gametocytes were present in the artificially induced cases of malaria in sufficient numbers to be infectious to mosquitoes, at least, in four of the cases cited, as early as the second and third days after the onset of the infections.

Craig[1] has called attention to the fact that gametocytes occur in latent malaria in which no malarial symptoms ever occurred. The incubation period of artificially induced malaria is irregular in time and is often delayed, so that in many instances a state of latent malaria exists long before the onset of symptoms. It is not improbable that gametocytes are differentiated during this period as well as during the period of clinical manifestaion.

Viewed from a public health standpoint it must be concluded that there is no period of grace in the inoculated cases of malaria during which these patients may be permitted to roam in areas where anopheline mosquitoes are present. As a measure of precaution beyond possible criticism, all persons inoculated with the plasmodia of malaria should be mosquito-protected from the time of inoculation to the termination of the infection.

* From the department of preventive medicine and clinical pathology, Army Medical School.

1. Craig, C. F.: The Sexual Forms of the Malarial Plasmodia Occurring in the Blood of Man, Arch. Int. Med. 5: 325-347 (April) 1910.

Transfer of Habits or Knowledge.—Most scientific psychologists have agreed that one subject helps another just so far as there is an identity of elements. Latin perhaps helps the study of English in understanding words and sentence structure, but it is not of value in aiding a student to do square root. This much has been settled. The question of the transfer of general habits is still an open one, as there has been very little scientific investigation concerning the subject.—Anonymous.

Physical Therapy

THE FOLLOWING REPORT HAS BEEN APPROVED BY THE COUNCIL ON PHYSICAL THERAPY OF THE AMERICAN MEDICAL ASSOCIATION. H. J. HOLMQUEST, SECRETARY.

REPORT ON WINDOW GLASS SUBSTITUTES

The following is a report of an investigation conducted under the auspices of the Council on Physical Therapy of the American Medical Association to determine the efficiency of certain window glass substitutes for transmitting the antirachitic rays of sunlight.

The materials tested were submitted for this purpose by their manufacturers to the Council. The transmission of ultraviolet rays was determined both by a spectroscopic analysis and by the biologic effects of the transmitted sunlight. Tests were also made to determine the effect which weathering had on the physical properties of the materials.

The following materials were submitted for the tests: Vitaglass (of which there are two kinds, one form being smooth and transparent while the other—or "cathedral"—is rough and translucent), by the Vitaglass Corporation, New York City; Cel-O-Glass, by the Acetol Products, Inc., New York City; Flex-O-Glass, by the Flex-O-Glass Manufacturing Company, Chicago; and Corning Glass by the Corning Glass Works, Corning, N. Y.

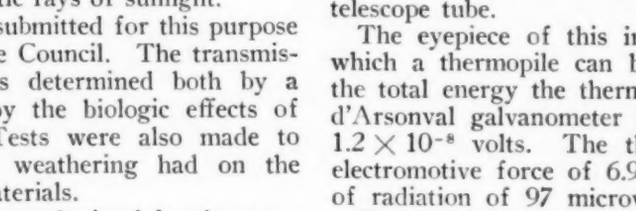

Fig. 1.—Transmission of glasses: *A*, Corning Glass 980 A, 3.3 mm. thick; *B*, Vitaglass (clear), 1.65 mm. thick; *C*, window glass, 2.08 mm. thick.

Vitaglass and Corning Glass are stated to be true glasses.

Celo-O-Glass is composed of wire-mesh screen filled with an apparently celluloidinous material.

Flex-O-Glass is a thin, fairly loosely woven cloth treated with a paraffin-like substance.

The sample of Corning Glass was received too late for inclusion in the biologic tests, but we believe that the spectroscopic analysis furnishes sufficient data to warrant its being ranked with the best of the materials studied.

SPECTROSCOPIC MEASUREMENTS

Those materials which were transparent, such as Vitaglass (transparent) and Corning Glass, could be tested by placing them directly in front of the slit of the spectroscope, and their absorption spectrums thus determined both by the photographic method and also by measuring the total energy of the isolated spectral regions by means of a thermopile. But those materials which were translucent and consequently scattered the light could not be tested in this manner because the scattered rays were not focused by the lenses of the spectroscope and the spectroscopic analysis would therefore give spurious results since these scattered rays would possess as much biologic effect as directed radiation. It was necessary, therefore, to use another method for measuring their transmission.

A Hilger monochromatic illuminator was used for testing both kinds of materials. By rotating the prism of this instrument it is possible to direct into the slit of the telescope light of any wave length of the spectrum from 9,000 to 1,850 angstrom units. The resolution of the instrument in the ultraviolet region was about 10 angstrom units.

The instrument used had already been altered for the purpose of making wave-length energy distribution measurements of sunlight. The instrument had been fixed on an equatorial mount provided with an electrical clock by means of which it could be driven around with the sun, and the prism platform had been enclosed in a case which was light-tight and was so constructed as to permit the free rotation of the prism table necessary to throw the various spectral regions into the telescope tube.

The eyepiece of this instrument has a recess into which a thermopile can be inserted. For measuring the total energy the thermopile was connected with a d'Arsonval galvanometer having a volt sensitivity of 1.2×10^{-8} volts. The thermopile used develops an electromotive force of 6.9 microvolts for an intensity of radiation of 97 microwatts per square centimeter.

For making measurements of the transmission of translucent substances, a further change in the instrument was necessary, because, as pointed out, these materials could not be tested by placing them in front of the slit of the spectroscope. They had therefore to be placed in the path of the beam, after it had been dispersed by the prism and as close to the thermopile as possible. This was accomplished by fastening a small disk of the material to be tested to a special holder, which was inserted into the eyepiece immediately in front of the slit of the thermopile recess. Only 3 mm. separates this slit from the variable junctions of the thermopile, and consequently only a negligible fraction of the light transmitted was lost by scattering. The necessity of this procedure is shown by table 1, in which the percentage of transmission is given for the same material placed (*a*) in front of the slit of the spectroscope and (*b*) in front of the slit of the thermopile recess.

TABLE 1.—*Percentage of Transmission*

Wave Length	Celoglass		Flexoglass	
	A	B	A	B
6,900	12.8	46.5	0.7	11.5
5,800	17.7	47.0	0.5	6.5
3,650	20.6	44.0	0.0	3.0

The transmission curves determined by the thermopile method are shown in figures 1 and 2, in which the percentage of transmission is measured along the ordinate and the wave length of light along the abscissa.

In a circular issued by the Vitaglass Corporation there are given two sets of curves of the transmission of Vitaglass. One set is ascribed to Prof. A. H. Pfund

of the Johns Hopkins University, and the other to Prof. Harold W. Webb of Columbia University. Our transmission curve agrees more nearly with the curve ascribed to Professor Webb. However, we cannot exactly compare our data with his because the thickness of the specimen of glass which he used is not given. We can, however, compare our transmission data with data given by Professor Pfund. The specimen that we used had a thickness of 1.65 mm. We may compare the transparency of the two specimens if we calculate the absorption index for a number of different wave lengths, using the formula

$$T = \epsilon^{-\mu d}$$

in which T is the percentage of light transmitted, ϵ is the base of the natural system of logarithms, d is the thickness of the specimen of glass tested, and μ is the absorption index. The absorption index calculated from our data for all wave lengths in the ultraviolet region was found to be slightly larger than that calculated from Pfund's data; i. e., according to our data the specimen of Vitaglass that we tested was not quite as transparent as the specimen tested by Professor Pfund. When we plotted the absorption index as ordinate against the wave length as abscissa, the graphs from Professor Pfund's data and from our data are very nearly parallel.

In order to compare our transmission determinations for Corning Glass with those published by its manufacturers and ascribed by them to the Bureau of Standards,[1] we have calculated from the transmission data the value of the absorption index for a number of different wave lengths. The results are shown in the various curves of figure 3, in which the absorption index is measured along the ordinate and the wave length along the abscissa. The curves I, II, III and IV show the relation between the absorption index and wave length as calculated from the curves published by the Corning Glass Company for specimens having a thickness of 0.5, 1, 2 and 5 mm., respectively, while

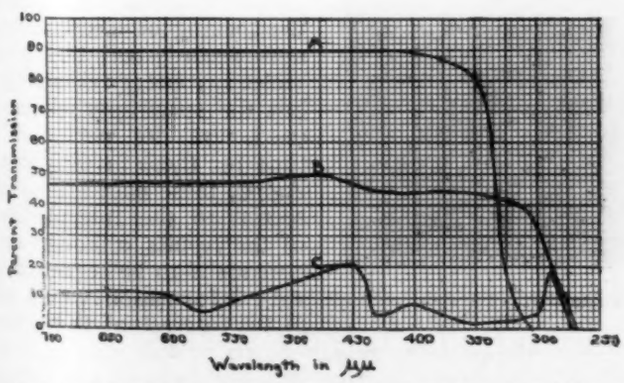

Fig. 2.—Transmission of glass substitutes: *A*, window glass, 2.08 mm. thick; *B*, Celoglass; *C*, Flexoglass.

curve V shows the relation between absorption index and wave length as calculated from our own determinations by the thermopile method for a specimen having a thickness of 3.3 mm.

Since the values of the absorption index are independent of the thickness of the glass, all these curves should coincide if all the various samples had the same transparency. As the curves do not coincide, it is not possible to arrive at any final conclusions concerning the true transmission power of the glass excepting that the glass transmits a large amount of the ultraviolet rays. It will be observed that the absorption index values calculated from our data fall well within the values calculated from the data published by the Corning Glass Works.

The values observed for Flexoglass and probably also for Celoglass very likely do not represent the biologic efficacy of these glasses, because, owing to the translucence of the materials and the consequent scattering of the light, the galvanometer deflections were not proportional to the total energy transmitted. However, we have largely overcome this difficulty by placing the transmitting material as close as possible to the thermopile.

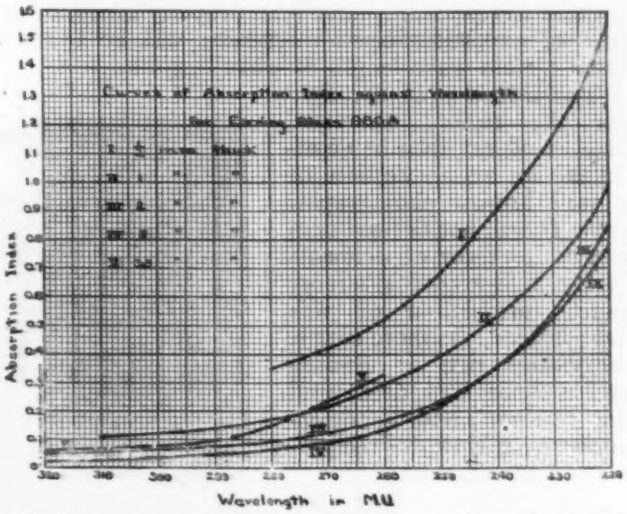

Fig. 3.—Curves of absorption index against wave length for Corning Glass 980 A: I, 0.5 mm. thick; II, 1 mm. thick; III, 2 mm. thick; IV, 5 mm. thick; V, 3.3 mm. thick.

Celoglass and Flexoglass were weathered for sixty-three days. Our spectroscopic measurements show that there was no greater variation of their transmission properties before and after weathering than exists between different unweathered specimens of the same product. These two materials, and especially the Celoglass, do not have a uniform thickness, and it is consequently not possible to calculate the absorption index from our data.

For measuring the transmission by the photographic method, the original telescope of the instrument was removed and a telescope carrying a camera, built especially for these investigations, was fitted in its place. With this camera the image formed of the spectrum from wave length 9,000 to wave length 1,850 angstrom units was 25 cm. long. The photographic plate was only 10 cm. long, and therefore it required at least three settings of the prism to photograph the entire spectral range. In this test, as we were interested only in that part of the spectrum containing the extreme ultraviolet of sunlight, the prism was adjusted so that the spectral region from wave length 3,200 to wave length 2,200 angstrom units was focused on the plate.

As is well known, if one is to determine the spectral transmission by a single photographic reproduction of the spectrum of the transmitted light, it is necessary to measure the sensitivity of each plate used in the investigation. This procedure is called for because the manufacturers of photographic plates have not yet learned how to make emulsions of a predetermined sensitivity. In order to avoid this rather time-consuming procedure, we adopted the following method: Pairs of exposures

1. Gibson, K. S.: J. Optical Soc. America and Review of Scientific Instruments **13**: 279 (Sept.) 1926.

were made, immediately adjacent to each other on the plate. In one exposure the light was passed through the material being tested, so that the image formed on the photographic plate was that of the absorption spectrum of the material being tested. In the other exposure the material tested was removed from in front of the spectroscope, and the image formed on the photographic plate was that of the spectrum of the incident beam. This second exposure was reduced either by shortening its duration a definite amount or by rotating a sector wheel in front of the slit of the spectroscope. When the plate is subsequently developed, if the exposures have been properly timed, in each pair of exposures equal blackening will be found at some certain wave length or wave lengths.

The intensity of the light for the regions of equal blackening can then be determined by an application of a well known photographic law. It was not deemed necessary for these experiments to use Schwartzschild's more exact formulation of this law; instead, the more simple reciprocity rule of Bunsen and Roscoe was used, and the relative intensity determined by taking the reciprocals of the exposures.

When, however, the data obtained by the photographic method were compared with the data obtained by the thermopile method, the deviations between the two were found to be no greater than the unavoidable experimental errors and therefore it is not necessary to include a record of the photographic data in this report.

MEASUREMENT OF SOLAR RADIATION

Continuous records of the intensity of the sunlight were made, in connection with the biologic tests. A pyrheliometer, recently designed and constructed for investigations on the biologic effects of light, was used. Figure 4 is a photograph of the light sensitive. Since this instrument has not yet been described in scientific literature, a brief description of it may be of interest. The instrument consists of a thermopile formed of number 40 gage iron and constantine wire. It has five variable and five constant junctions. Hollow silver spheres one-eighth inch in diameter are electrically welded to the variable junctions. To facilitate the absorption of radiant energy, these spheres are coated on the outside with lampblack. Flat strips of bright platinum foil, 2 mm. wide by 4 mm. long, are electrically welded to the constant junctions. The entire thermopile is contained in a hollow glass globe (an electric light bulb) and is supported on the glass stem which ordinarily carries the filament. The globe contains gases at a pressure which experiments have shown to be the most suitable for obtaining a high degree of light sensitivity. This pyrheliometer is so sensitive that with it diffuse light can be measured as well as direct sunlight, and when used in connection with a special amplifying unit it is sufficiently sensitive to measure the variations of twilight.

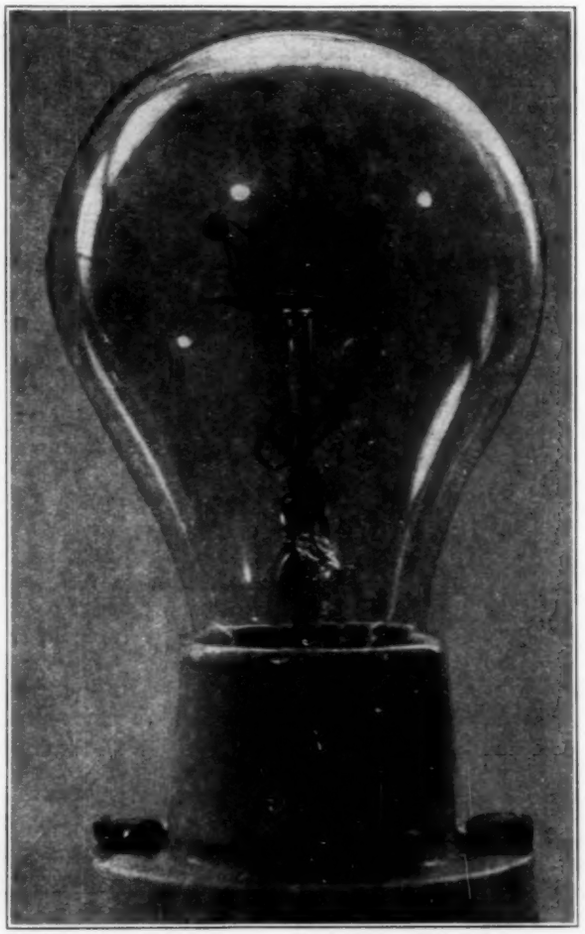

Fig. 4.—Light sensitive.

Ordinarily a cluster of five of these light sensitives connected in series is employed. But for this test only two could be used profitably because, at high noon on a sunny day, a greater number would give deflections beyond the range of the galvanometer. Even when only two light sensitives were used, it was necessary to place a resistance of from 150 to 250 ohms in series with the galvanometer (which had an interval resistance of 10 ohms) in order to prevent the galvanometer from deflecting off-scale. This series resistance had a swamping effect on the circuit and prevented any falsifications of the readings due to small resistance changes (as the change of temperature) in the galvanometer circuit. Care, of course, was taken to eliminate spurious records due to "thief currents" from thermal effects at the binding post junctions, and the like.

It is not germane to these experiments to give the intensity of the solar radiations in the usual terms of calories per square centimeter per minute; suffice it to say that the deflections on an average cloudy day were of the order of one tenth of the deflections of full sunlight at high noon during the season in which these tests were made.

The original plan included the making of measurements and records of the ultraviolet ray energy of sunlight, but the spectropyrheliometer used was not perfected in time for these investigations. Again, these data are not essential to the interpretation of the results, although their absence is to be regretted, as such information would add to the interest of the report. Up to the present, measurements of this sort have not been made in conjunction with the study of the biologic effects of the sun's rays.

To save space, the daily records of the pyrheliometer are not given here, but curves (figs. 5 and 6) showing the amount of sunlight for the brightest day and the darkest day in each week, as well as one depicting the average for the week are included, and in addition there is a composite curve illustrating the general average of sunlight for the whole experiment. It is believed that these diagrams supply the data necessary for comparisons. While this information cannot be used with the maximum of profit in this investigation, it will be extremely valuable when more investigations are conducted along similar lines, as it will assist in fixing standards of dosage of radiation. It will also be useful

in correlating the experimental results of different investigators on the biologic effects of light.

BIOLOGIC TESTS

Chickens were used for the biologic tests because experience has shown that these animals are adapted to an investigation of this kind, and also because they could be properly housed in the space available. Previous experiments conducted in the laboratory had shown the manner in which chickens react to an environment deficient in ultraviolet rays; moreover, the results of those investigations would be of aid in interpreting the results of the present tests.

While some investigators, notably Pappenheimer and Dunn, are of the opinion that leg weakness in chickens is not identical with mammalian rickets, many investigators hold that they are the same disease; Bovie, emphasizing the necessity of distinguishing between growth and differentiation, goes so far as to consider that from a biologic point of view one may even include in the generalization of a malfunction due to a light deficiency the suppression of development expressed in etiolated plants. As a matter of fact the question of the identity of these diseases does not enter into the results of the present investigation, for the purpose is merely to compare the quality of the ultraviolet transmission of the various glass substitutes with one

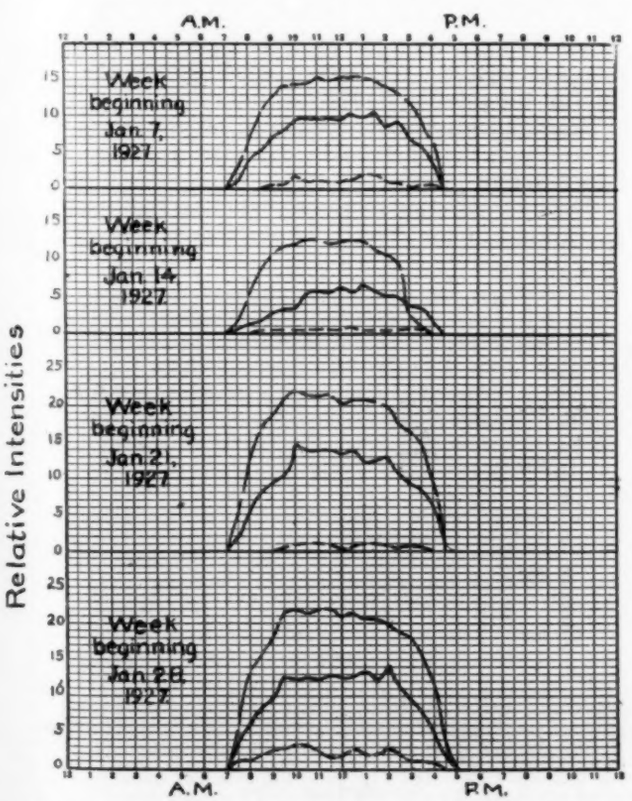

Fig. 5.—Curves of total radiation from sun during periods indicated: solid line, average intensity for week; line of long dashes, brightest day of week; line of short dashes, dullest day of week.

another and with the effect produced by supplying ultraviolet rays from an artificial source. It is being tacitly assumed that there is no profound difference in the spectral regions to which the curative effects are due.

The tests were carried on in a radiation laboratory of greenhouse construction, glazed with ordinary window glass. In order to make it a more comfortable place to work, two false ceilings of unbleached cotton cloth were provided. Certain of the side windows were removed and were replaced by sashes containing the glass substitutes.

Six groups of chickens were placed in a corresponding number of cages, 4¼ feet deep, 3 feet high and 2½ feet wide. Throughout the tests the floors of all the cages were covered with wood shavings. Each cage

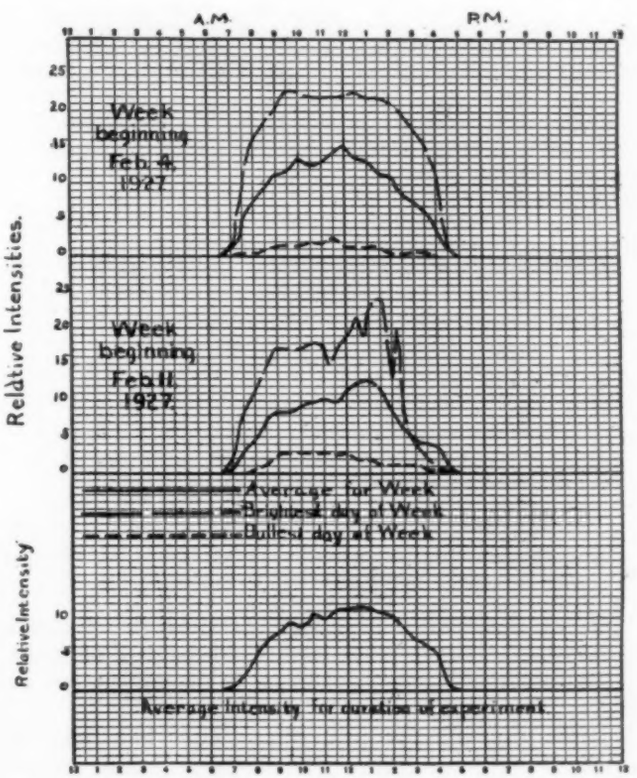

Fig. 6.—Curves of total radiation from sun during periods indicated.

was provided with a sand bath. All the cages, with the exception of one, were on the laboratory bench immediately in front of the windows. They were separated from one another by opaque partitions extending their full height. The windows had an exposure south by 25 degrees east. The cage not on the bench was far enough away so that it received only the diffuse daylight of the laboratory.

The experimental period extended from January 1 to March 2. By means of thermostatic control, the temperature of the radiation laboratory was maintained at 71 F. throughout the experiment.

The chickens in all the groups received a diet consisting of "Conkey's Buttermilk Starting Feed," to which was added water and lime grit *ad libitum*. This feed is a commercially prepared mash, and is said by the manufacturers to be adequate for promoting growth, except that greens are advised to supplement its use. Because of the content of vitamin D in greens, they were not fed to the chickens. The calcium-phosphorus ration of the prepared feed was sufficiently disturbed so that symptoms of leg weakness appeared at the end of four or five weeks.

White and barred Plymouth Rock chickens were used. When they were 17 days old, the chickens were placed in six groups. The radiation of the groups was as follows:

Group 1 received direct sunlight through the ordinary window glass of the radiation laboratory.

Group 2 received direct sunlight through the ordinary window glass of the radiation laboratory, and in addition fifteen minutes' exposure daily to the light from a mercury vapor arc at a distance of 1 meter.

Group 3 received only the diffuse daylight of the radiation laboratory.

Group 4 received direct sunlight through Vitaglass (clear).

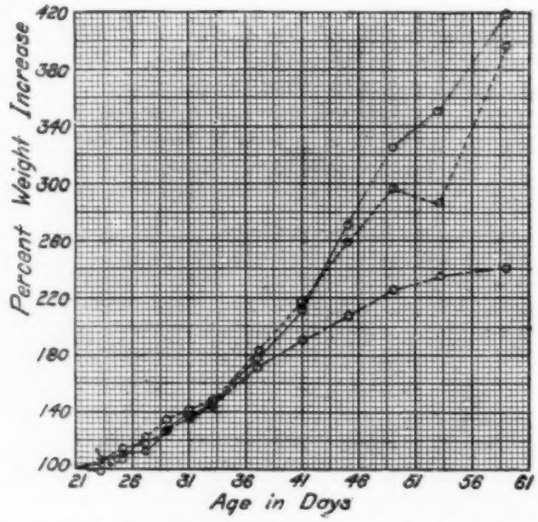

Fig. 7.—Vitaglass: solid line, irradiated control; broken line, Vitaglass; line of dashes and dots, window glass control.

Group 5 received direct sunlight through Celoglass.

Group 6 received direct sunlight through Flexoglass.

The distribution of the chickens in the various groups is given in table 2.

January 5, the twenty-first day after hatching, the chickens were weighed. The average weight of the chickens in each group, and the average weight at subsequent dates, are shown in table 3. The percentage gain in weight, the initial average weight being designated as 100 per cent, is also given in this table. Curves

TABLE 2.—*Experimental Groups* *

Group Number	1	2	3	4	5	6
Number of white Plymouth Rock chickens	2	2	2	4	4	4
Number of barred Plymouth Rock chickens	9	6	8	12	11	12
Total number of chickens alive, January 5	11	8	10	16	15	16
Total number of chickens alive, February 12	6	8	7	12	10	13
Number of deaths during experimental period	5	0	3	4	5	3

* Cause of death: Group 1: intestinal disorder, 1; rachitis, 3; undeterminable, 1. Group 3: rachitis, 2; undeterminable, 1. Group 4: intestinal disorder, 1; probably rachitis, 1; undeterminable, 2. Group 5: intestinal disorder, 2; rachitis, 2; undeterminable, 1. Group 6; intestinal disorder, 1; undeterminable, 2.

showing the percentage weight increase plotted against the age in days are given (figs. 7, 8 and 9).

The chickens which received the sunlight through Vitaglass and Celoglass gained in weight quite as rapidly as those which received daily exposure from the artificial source of ultraviolet rays. Hess and Weinstock have shown that two minutes' daily exposure to a source of ultraviolet rays at a distance of 3 feet is sufficient to inhibit manifestations of a rachitic condition. It is therefore apparent that the Vitaglass and Celoglass transmitted a large percentage of the sun's ultraviolet rays, since the chickens reared behind these glasses showed similar development to those which received the radiation from the artificial source. The chickens which received the sunlight through Flexoglass did not show the same gain in weight as did the irradiated controls. These chickens, however, did gain in weight more rapidly than the chickens receiving only the sunlight through window glass. In this connection it should be remembered that in these tests the windows did not face due South.

There was no appreciable difference between the growth and development of those chickens receiving

TABLE 3.—*Data for Actual and Percentage Weight Gains*

	Group 1 Ordinary Window Glass		Group 2 Window Glass + 15 Minutes Ultraviolet Daily		Group 3 Diffuse Light Inside Room		Group 4 Vita-glass, Smooth		Group 5 Celo-glass		Group 6 Flexo-glass	
Jan.	Av. Wt. Gm.		Av. Wt. Gm.		Av. Wt. Gm.		Av. Wt. Gm.		Av. Wt. Gm.		Av. Wt. Gm.	
5	79	100	75	100	81.5	100	82	100	82	100	77	100
7	84	106.3	80	106.7	88	108.0	81.5	99.4	89	108.5	85.5	111
9	99	114.6	83	110.7	91	111.6	87	106.1	96	117.1	99	115.6
11	93	117.7	84	112.0	98	120.2	100.5	122.5	99	120.7	94	122.1
13	100	126.6	95.5	127.4	107.4	131.8	110	134.1	107.5	131.1	103.6	134.6
15	106.5	134.8	103	137.4	107.8	132.3	116	141.4	111.5	135.9	109.5	142.1
17	114	144.4	109	145.3	117	143.5	120.6	147.0	116	141.4	115	149.3
21	133.3	169.0	134	178.7	135.7	166.8	149.5	182.1	155.4	189.7	140	181.8
25	149.6	189.2	178.5	213.8	151.5	185.8	178.5	217.5	195	213.8	175	226.9
29	164.0	207.6	202.4	270.0	167.3	205	212	258.5	224.2	274.0	202	262.0
Feb.												
2	177.0	224.1	244.1	325.0	184.4	226.2	242	295.4	261.3	318.0	229.7	298.5
6	184.7	233.6	262.5	350.0	176.6	232.2	234	285.2	268.4	327.0	224.5	291.8
12	189.2	239.5	314.6	418.0	209.7	242.8	324.3	396.0	324.9	396.0	273.5	355.0

direct sunlight through window glass and the growth and development of those receiving only the diffuse light in the interior of the laboratory.

Roentgenograms were made of all the living chicks, February 5, the thirty-sixth day after their segregation into different groups.

The interpretation of rickets was based on the general appearance of the growth of the epiphyses and on the

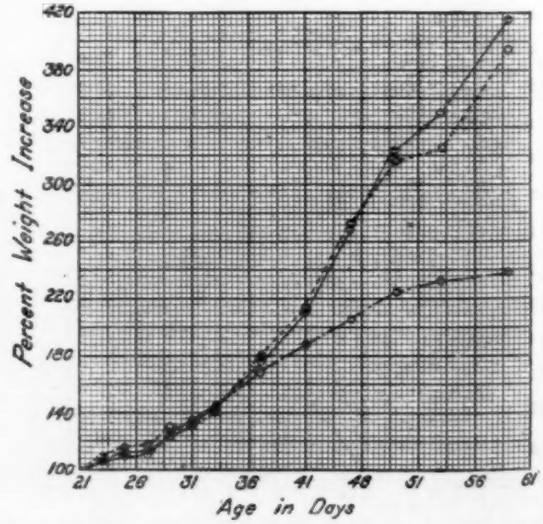

Fig. 8.—Celoglass: solid line, irradiated control; broken line, Celoglass; line of dashes and dots, window glass control.

relative amounts of ossification and rigidity of the diaphyses. With some of the chicks the well known characteristic posture of the rachitic condition was obvious even a week before the roentgenograms were made.

Table 4 gives a summary of the diagnosis made from careful examination of the roentgenograms and also notes to designate those chicks in which leg weakness was particularly obvious from posture appearances.

It is obvious from an analysis of the foregoing data that the Vitaglass and Celoglass transmitted a sufficient amount of the ultraviolet rays in the antirachitic range of the spectrum to prevent an appreciable development of leg weakness. The Vitaglass would seem to be slightly better in this respect than the Celoglass. The Flexoglass apparently transmitted only a small amount of the shorter wave lengths, since the rachitic condition was developed in about 60 per cent of these chicks. Even with the Flexoglass, however, the development of leg weakness was not nearly as pronounced as with the chicks in the control group which received the sunlight only through the window glass.

The roentgen-ray diagnoses and the general appearance of leg weakness in the chicks show that those chickens which were more rachitic were in general the ones for which the growth rates were slowest.

Comparisons of growth rates for individual chicks showed that in no case was the development of leg weakness in these experiments distinctly referable to a specific high rate of growth which would increase the demand for light of the antirachitic wave length. These observations would seem to indicate more clearly that the only controlling factor in this experiment was the character and intensity of the light transmitted by the different materials, and that the average growth curves for the different groups is dependent on the general health of the chicks as controlled by their environment.

The roentgen-ray diagnoses of poor ossification and the weight curve analyses indicate clearly that the chicks which showed poor bone formation were in general those which grew more slowly. The two conditions seem to be dependent on the same cause and are not interdependent.

TABLE 4.—*Condition of Chickens Alive at End of Experiment* *

Group 1				Group 2				Group 3			
Chick	Color	General Appearance	Roentgen-Ray Diagnosis	Chick	Color	General Appearance	Roentgen-Ray Diagnosis	Chick	Color	General Appearance	Roentgen-Ray Diagnosis
1	B	R	+	8	B	N	—	16	W	N	++
2	B	R	+++	9	B	N	—	17	B	R	++
3	B	R	++	10	W	N	—	18	B	N	+
4	W	R	+++	11	B	N	—	19	B	R	+
5	B	R	+	12	B	N	—	20	B	R	++
6	B	N	+	13	B	N	—	21	B	R	+++
7	B	N	+	14	B	N	—	22	B	R	++
				15	W	N	—	23	W	R	++

Group 4				Group 5				Group 6			
Chick	Color	General Appearance	Roentgen-Ray Diagnosis	Chick	Color	General Appearance	Roentgen-Ray Diagnosis	Chick	Color	General Appearance	Roentgen-Ray Diagnosis
24	B	N	—	38	B	N	±	48	B	N	+
25	W	N	—	39	B	N	±	49	W	N	—
26	B	N	—	40	B	N	—	50	B	N	+
27	B	N	—	41	W	N	+	51	B	N	++
28	B	N	—	42	W	N	—	52	W	N	—
29	B	N	—	43	B	N	—	53	W	N	+
30	B	N	—	44	B	N	—	54	W	N	—
31	B	N	—	45	W	N	+	55	B	N	+
32	W	N	—	46	B	N	—	56	B	N	+
33	B	N	+	47	W	N	—	57	B	N	±
34	B	N	+					58	B	N	++
35	B	N	—					59	B	N	+
36	W	N	—					60	B	N	++
37	W	N	—								

* General appearance: N, appearance normal; R, chicks show characteristic symptoms of leg weakness; roentgen-ray diagnosis: —, nonrachitic; well rounded epiphyses, well ossified diaphyses; ±, doubtful diagnosis; +, moderately rachitic; indistinct rounding of epiphyses; ++, well developed rachitic symptoms; very hazy epiphyses; poor ossification of diaphyses; +++, extremely rachitic; only slight ossification of epiphyses; poorly ossified diaphyses with malformation, bowing, etc.

CONCLUSIONS

The results of these investigations encourage the belief that there are now available materials for glazing our windows which do not possess the fault of window glass in excluding the health-giving rays of sunlight. This belief is particularly engendered because the cages did not have a southern exposure and, moreover, they were of such size that the chickens were not compelled to remain in the sunlit area. A comparatively small amount of exposure to sunlight, even during the winter months, at the latitude of Boston has a decidedly beneficial effect.

Corning Glass and the clear Vitaglass are as transparent to the visible rays as is window glass. Vitaglass is furnished also in a translucent ("Cathedral" [2]) form, which is particularly suitable where privacy is desired.

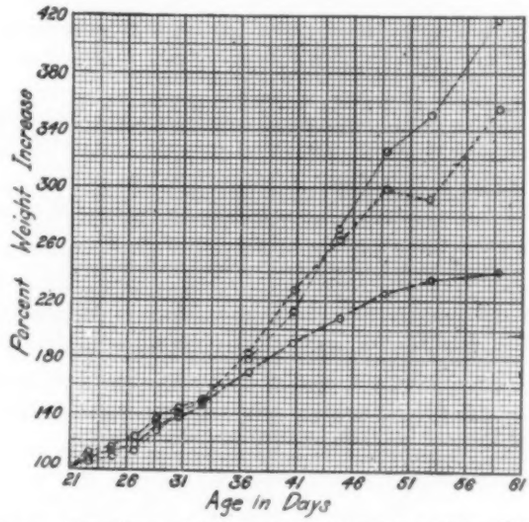

Fig. 9.—Flexoglass: solid line, irradiated control; broken line, Flexoglass; line of dashes and dots, window glass control.

Celoglass and Flexoglass are not transparent, but the data presented show their comparative value for use in solariums and for animal husbandry in cases in which transparency is not essential. Both of these substances are less expensive than ordinary window glass, but the Flexoglass does not withstand the onslaught of the weather as well as does the Celoglass. The waxy coating of the Flexoglass has a tendency to soften in hot sunshine, and dust may then adhere which is not easily washed off. This material is primarily intended, however, for use in animal husbandry to provide protection in winter. During the hot summer months it may be removed and in the fall reinstalled.

2. The "Cathedral" Vitaglass was not submitted by the manufacturers for these tests.

Motor Education.—The main function of education, perhaps, is to train the human mechanism toward efficiency as an instrument of self-expression, with reference to the various opportunities and responsibilities of life, at the time and later. The child learns far more of permanent value through what he does—and this always means neuromuscular action of some sort—than through what he sees or hears or perceives in any way directly with the five senses. In fact, perception of sensation depends on some degree of activity. Motor sensation is the great cornerstone in the foundation of human education. The experience of a Helen Keller demonstrates how much can be accomplished in education without sight and hearing if the main avenues of sensation from movement are left open.—Wood: Health and Education, pp. 82-83.

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SATURDAY, MAY 14, 1927

THE DOCTOR'S RECREATIONS

Several volumes have been published on the strange pursuits and hobbies followed by physicians in their times of leisure. Many a physician has gained fame in fields far removed from medicine, using such time as was available away from the office and the hospital. Recently Dr. Alfred S. Warthin discussed the hobby of rock gardening, one which he follows to great advantage both for his immediate surroundings and for his community. Medical golfers, trap shooters, tennis players and physicians in other sports have achieved fame for exceeding skill; in fact, skill such as that characterized by Herbert Spencer as not the accomplishment of a gentleman but the sign of a wasted youth. Billroth was known for his ability as a musician. Such contributors to modern literature as Somerset Maugham, Warwick Deeping, Francis Brett Young, A. Conan Doyle, Chekhov, Arthur Schnitzler and Claude Duhamel have shown what medical men can do with the novel.

The exhibition in New York in March of some 545 artistic works by seventy-eight physicians recalls the fact that medical men have many times contributed notably to the arts outside of medicine. One needs but recall Leonardo da Vinci to realize that artistic ability is not incompatible with the scientific mind. The magnificent history of art contributed by the French physician Elie Faure is one of the noteworthy works of the twentieth century. Strangely, the subjects chosen were but infrequently related to medical topics, although hundreds of the works of nonmedical artists have been devoted to subjects related to medical science. In the New York exhibition, landscapes and portraits predominated with a conspicuous number of works devoted to animal life. Among the contributions were four water-colors by Dr. Robert Abbe, nine oil paintings, chiefly portraits, by Dr. James C. Ayer, bookplates by Dr. Alfred Brown, etchings, drawings, lithographs and pastels by Dr. Percy Fridenberg, sculpture, drawings and water-colors by Dr. Fred J. Cotton, oil paintings and etchings by the late Dr. Arpad Gerster, and water-colors by Dr. Frederick Peterson. Contributions of neurologists and psychiatrists seemed to predominate. Unusual also was sculpture by Drs. I. Seth Hirsch, R. Tait McKenzie and J. A. McCreedy. Dr. Harris P. Mosher of Boston, renowned for contributions to otolaryngology as well as for his wit, contributed works in oil, in plaster and in plastic wood; Dr. Walter Mendelson of Philadelphia exhibited wrought metal work, for which he is famous, and Dr. Robert Koch of Brooklyn displayed examples of hand-made marquetry. A shipmodel of "Old Ironsides" by Dr. Karl Vogel of New York was timely, and art jewelry cast by Dr. J. E. Sweet, photography by Dr. Theron W. Kilmer, and artistic bookmaking by Dr. Charles L. Dana added more variety. Space does not permit the listing of all the works displayed. Certainly the American exhibition compared favorably not only with similar exhibitions by French, British and German physicians but also with the work of those who follow the arts mentioned as a profession and not as an avocation.

The true physician is a gregarious person who loves his fellow man and understands personality. Such understanding can come only with a type of intellect that sees beyond the test tube and the specimen into the spirit of the living organism. By the choice of his avocation, the physician may do much to cultivate himself in those esthetic fields that are likely to provide him with a humanistic point of view.

SUPRARENAL FUNCTIONS

The functions of the suprarenal glands have been the subject of such differences of opinion on the part of competent physiologists that a reviewer of the available evidence is likely to hesitate to promulgate any fixed conclusion. Nevertheless, the accumulating experimental facts are beginning to permit a marshaling of their bearings into the form of at least tentatively tenable points of view. The early demonstration of the pressor effects of the hormone epinephrine, liberated by the glands, naturally prompted the hypothesis that the secretion of these glands is a factor in the maintenance of arterial tone. Owing, however, to the lack of corroboratory indications and to the actual demonstration of contradictory facts, the "tonus" hypothesis has been abandoned. At best the actual amount of epinephrine constantly liberated could scarcely suffice to produce the desired effects. Furthermore, epinephrine is not present in sufficient concentration to be detected by any of the biologic tests now known in the serums of patients suffering from vascular hypertonus.

Cannon of Harvard University has been the chief exponent of the "emergency" hypothesis of suprarenal function. This implies that epinephrine is secreted into the blood in supernormal amounts when certain

emergencies arise, such as asphyxia, or conditions of extreme emotion, such as fright and anger. The reaction is one that would give the individual involved certain physiologic advantages. There would be, for example, increased efficiency of muscular responses, and increased mobilization of sugar as a source of energy. Some of the experiments indicate that the greater the emergency, as measured by intensity of excitement and struggle, the more the suprarenal mechanism of physiologic helpfulness is brought into play.

Whatever criticism has been launched against the emergency hypothesis has been directed against the adequacy of the experiments employed in the demonstrations. Without venturing to render a final verdict, the recent Harvard investigations [1] may be referred to as confirmatory of the earlier evidence that as a part of the reaction of the organism in great excitement there is a striking increase of the discharge of epinephrine from the suprarenal medulla. Apparently this may be involved in even slight muscular activities. There are visceral concomitants attributable to suprarenal secretion. Cannon and Britton [1] regard it as sound doctrine that the organism profits by the exercise of the functions of its parts. The deep stirring and unsettling of the routine of quiet existence, wrought by great excitement, may be as important for proper service of the viscera as is work for the proper service of muscles. One might argue, therefore, they add, that occasional intense excitement is a physiologic need. Strong physical effort, however, operating either directly through a larger sympathetic discharge or indirectly through increased output of epinephrine, can influence the viscera perhaps nearly as well as excitement alone. Thus, exertion is favorable to bodily welfare not only by bringing into use the muscular mechanisms but also by requiring those internal adjustments, commonly the consequences of emotional excitement, which contribute to muscular efficiency. At critical moments the sudden influx of epinephrine, with the consequent shifts in the circulating blood, the hyperglycemia, the dilated bronchioles, the more rapid heart beat, are favorable to highest efficiency in supreme muscular exertion.

It is also becoming evident that epinephrine may have a noteworthy calorigenic part in the economy. The suprarenal secretion can liberate extra blood sugar that provides a readily combustible material for increase of heat production. It has latterly been taught that when the body is subjected to the possibility of undue cooling, the necessary heat production to prevent chilling is brought about by shivering or greater muscular tension. The older view of the so-called chemical regulation of body temperature, postulating that an increased heat production may occur without any muscular activity whatever to account for it, seems to be substantiated by recent investigations.[2] Indeed, there seems to be no reason why both chemical and muscular responses should not be brought into play to meet threatened heat deficits. When experimental animals are subjected to severe cold, epinephrine is evidently liberated into the blood stream, according to these experiments. The calorigenic action of the hormone can then come into play to accelerate combustion. According to Cannon [2] and his co-workers, it seems probable that the chemical mechanisms for heat production rarely come into service in the ordinary comfortable existence of civilized man. Persons who live through a winter in houses and public buildings, often kept unpleasantly warm, are subjected to few of the exigencies that their ancestors had to meet under primitive conditions. Even if a superficial feeling of being cold signals a possible danger of heat loss, warm clothing is at hand to protect against an amount of heat loss that would call the mechanisms into action. And furthermore, as a rule, Cannon adds, the heat produced as a by-product of ordinary functioning of muscles and glands, when associated with quick voluntary protection against heat loss, would be adequate for the ordinary demands of cold weather as most of us have to meet them. If the artificial protection is lacking, however, or if it proves unequal to the occasion, the heat-producing mechanisms are ready, and can be brought into service promptly to help in the emergency.

1. Cannon, W. B., and Britton, S. W.: Studies on the Conditions of Activity in Endocrine Glands: XX. The Influence of Motion and Emotion on Medulliadrenal Secretion, Am. J. Physiol. **79**: 433 (Jan.) 1927.

2. Cannon, W. B.; Querido, A.; Britton, S. W., and Bright, E. M.: Studies on the Conditions of Activity in Endocrine Glands: XXI. The Rôle of Adrenal Secretion in the Chemical Control of Body Temperature, Am. J. Physiol. **79**: 466 (Jan.) 1927.

MASSIVE COLLAPSE OF THE LUNG

William Pasteur introduced the term "massive collapse of the lung" to indicate the condition found at necropsy in some cases following paralysis of the diaphragm in diphtheria. In 1908 at the Royal College of Physicians of London, he [3] reported finding massive collapse of the lung in other fatal cases, some of which were deaths after abdominal operations. In 1910, he recognized a case during life and, before the World War, other physicians had also diagnosed this condition.

Early in the war, certain unusual and inexplicable symptoms were observed associated with injuries of the chest. Bradford,[4] who saw many of these cases, has written the only comprehensive article on massive collapse of the lung that yet appears in a textbook. Scott,[5] in 1925, analyzed all the postoperative cases of massive collapse that were reported in sufficient detail, and reported four new cases from Cushing's clinic. In the same year, Jackson and Lee [6] wrote a comprehensive review and reported other new cases.

3. Pasteur, William: The Bradshaw Lecture on Massive Collapse of the Lung, Lancet **2**: 1351 (Nov. 7) 1908.

4. Bradford, J. R.: Massive Collapse of the Lung, Oxford Medicine **2**: 127, 1920.

5. Scott, W. J. M.: Postoperative Massive Collapse of the Lung, Arch. Surg. **10**: 73 (Jan.) 1925.

6. Jackson, Chevalier; and Lee, W. E.: Acute Massive Collapse of the Lungs, Ann. Surg. **72**: 364 (Sept.) 1925.

In the last two years, reports from various sources indicate that massive collapse of the lung may be associated with an increasing variety of conditions.

Sometimes the symptoms of collapse manifest themselves so suddenly and so severely as to suggest acute dilatation of the heart, coronary embolism or some other catastrophe. The physical changes, which Scott refers to as bizarre, vary with the amount and stage of collapsed lung, and may suggest a diagnosis of pneumonia, pleurisy with effusion, or pneumothorax. In massive collapse, the involved side is retracted. The heart or trachea is displaced toward the involved side and the diaphragm is displaced upward. Roentgenograms bear out the physical observations. Sante,[7] in this issue of THE JOURNAL, reports an interesting observation which may have a bearing on the treatment of this condition. After a patient had been rolled from side to side so that a roentgenogram might be taken from the opposite direction, the collapsed lung began to expand. With the fluoroscope he has observed a lung in the process of expanding. This simple measure of relief has been repeated successfully on several patients.

Although the etiology of massive collapse of the lung is obscure, some evidence is available as to the pathogenesis. Pasteur demonstrated that it may follow paralysis of the diaphragm in diphtheria. Chevalier Jackson and his associates have shown that it may occur as a result of organized plugs of mucus which block a bronchus so that air cannot enter the lung. In at least one of their patients the collapsed lung expanded after the mucous plugs were removed, then collapsed again with the formation of more plugs, and expanded again after these were removed. When massive collapse is associated with pleurisy, minor injuries to the chest, abdominal operations and prolonged posture in bed, it seems plausible, as suggested by others, that interference with the respiratory movements may be the cause. But why does it sometimes follow operations on the buttocks, for example, or occur in a case of acute meningitis, or follow a pain in the hip as in the case reported in this issue of THE JOURNAL? The plausible theory has been advanced that massive collapse follows bronchial spasm due to reflex irritation in other parts of the body.

It has been said that about 3 per cent of all patients operated on develop some type of pulmonary complication, one of every two hundred operations resulting fatally from this cause. Pasteur found that massive collapse of the lung occurred in about 8 per cent of 201 postoperative pulmonary complications; some writers believe that the incidence is much greater. When recognized more generally as a clinical entity, massive collapse of the lung probably will account for many symptoms that now are considered obscure.

7. Sante, L. R.: Massive (Atelectatic) Collapse of the Lung, with Especial Reference to Treatment, this issue, page 1539.

Current Comment

POISONOUS EFFECTS OF OXYGEN

Knowledge of the poisonous effects of oxygen dates back to Lavoisier. At present, with the development of improved means of administration,[1] the use of oxygen in pneumonia and in other conditions is apparently growing in favor. For this reason, Binger, Faulkner and Moore[2] have investigated the toxic effects that may develop with prolonged administration of oxygen in high concentrations. They placed animals in the type of chamber that is used for the treatment of pneumonia in human beings. This allowed removal of carbon dioxide and moisture on the one hand, and control of temperature, humidity and the attainment of atmospheric motion on the other. During four days, the chamber was left open to the surrounding atmosphere. Then the apparatus was closed and the oxygen content of the chamber was raised immediately to a little more than 50 per cent of one atmosphere. In the next thirty hours, the oxygen content was gradually increased to 80 per cent, at which point it was maintained throughout the remainder of the experiment. The conclusion reached is that a concentration of oxygen of more than 70 per cent of one atmosphere may produce symptoms of oxygen want. The manifestations are drowsiness, anorexia, loss of weight, dyspnea, cyanosis and, finally, death. That anoxemia should develop in an atmosphere surcharged with oxygen would scarcely be expected, but postmortem examination of the experimental animals furnished the explanation. Diffuse hemorrhagic edema had developed, with such injury to the diffusion membrane of the lung that, in spite of the increased head of pressure in the alveoli, the arterial blood remained unsaturated. With this knowledge of the effects of overrich oxygen mixtures, oxygen may be used to greater advantage therapeutically.

BACTERIOLOGY LOOKS OVER THE DISCARD

For many years medical students have been taught that bacteria could be identified by fixed morphologic and serologic standards. Indeed, most laboratories have charts that list the names of bacteria and their reactions to stains and mediums so that identification may be simpler. In the past, a specimen that did not conform to standards was in danger of being considered a degeneration or an involution form, and therefore of little importance. The specimens observed were commonly discarded and the blame for such abnormal progeny placed on poor mediums or old age of the culture. The influence of Robert Koch's great discoveries forced this conviction on bacteriologists. However, from the first, many investigators have believed in the changeability of bacteria and have urged that differentiation on the strength of morphologic and biochemical characters alone was not justified. "Scattered data" have accumulated gradually regarding the

1. Barach, A. L.: A New Oxygen Tent, J. A. M. A. **87**: 1213 (Oct. 9) 1926.

2. Binger, C. A.; Faulkner, J. M., and Moore, R. L.: Oxygen Poisoning in Mammals, J. Exper. Med. **45**: 849 (May) 1927.

significance of culture changes and the instability of species of bacteria. Now a review of this material by Hadley[1] indicates that cocci become rods and rods cocci or spirals, spore formers become sporeless, hemolytic activity comes and goes, virulent cultures become harmless and harmless cultures virulent, and antigenic power vanishes and reappears, but that these changes are not chaos; they represent a physiologic reaction to an underlying biologic principle common to all germ life. Hadley believes that bacterial instability is the manifestation of processes related to the reproductive mechanism of bacteria, the importance of which investigators are just beginning to understand. Eventually, he says, bacteriologists will realize that the free-living micro-organism is potentially a kaleidoscopic thing in which the power of responding successfully to a changing environment by altering itself, and even by self-destruction, in order to generate a more stable type, is its one most important attribute. Will the bacteriophage, the dissociative phenomena on and in culture mediums, the variation in types of such organisms as diphtheria bacilli, *Bacillus coli*, the pneumococci and others be found to have something in common which will explain the problems that have retarded bacteriology? The question will be answered by the research of the future.

THE INJECTION TREATMENT OF VARICOSE VEINS

Numerous requests received at the American Medical Association headquarters for information concerning injection and electrical and ray treatment of disturbances heretofore considered distinctly in the field of ordinary surgery indicate a renewal of the search for methods less mutilating than surgery for control of the conditions concerned. Undoubtedly injection and electrical and ray therapy are each valuable in selected cases. The time may come for their more general adoption. Not all the evidence is in as yet, however, and not all of it is on one side. In the face of growing enthusiasm for the treatment by injection of varicose veins of the leg and of hemorrhoids, it is well to consider a recent report by Lomholt.[2] A man, aged 60, who had dilated veins of the left leg, was treated at short intervals with five injections of 5 cc. each of a 20 per cent sodium chloride solution. Large thrombi formed immediately and the general condition improved. A few days later the saphenous vein was thrombotic up to the fossa ovalis. Two weeks after the treatment, the condition resembled phlegmasia alba dolens. The heart became irregular and the pulse rapid and small. Symptoms of pulmonary embolism developed, with dyspnea and severe palpitation. The patient overcame the attack, but about one month after the injection treatment he died suddenly of embolism of the pulmonary artery. Lomholt says that only one similar case is reported in the literature and that, in that case, the embolism was traced to infected hemorrhoids. One case proves nothing, but one disaster is an indication for caution.

1. Hadley, Philip: Microbic Dissociation, J. Infect. Dis. **40**: 1 (Jan.) 1927.
2. Lomholt, S.: Death After Injection Treatment of Varicose Veins, Ugesk. f. Læger **89**: 7 (Jan. 6) 1927.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

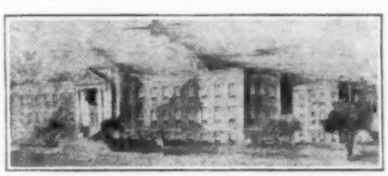
State Medical Election.—At the annual meeting of the Medical Association of the State of Alabama, April 19-20, Dr. John D. S. Davis, Birmingham, was elected president; Dr. Malcolm O. Grace, Ozark, vice president; Drs. William D. Partlow, Tuscaloosa, and Benjamin L. Wyman, Birmingham, censors for five years; Dr. Douglas L. Cannon, 519 Dexter Avenue, Montgomery, is secretary. Dr. Samuel W. Welch, Montgomery, was elected state officer for five years. The next annual meeting will be at Birmingham, April 17-20, 1928.

ARKANSAS

Personal.—Dr. Louis R. Brown, superintendent, state hospital for nervous diseases, has been reappointed for a term of four years; other appointments made at the meeting of the state board of charities and corrections were Dr. Edgar T. Ponder, Little Rock, physician at the state farm for women; Dr. James C. Cunningham, Little Rock, physician at the girls' training school near Alexander, and Dr. Samuel W. Colquitt, Grady, physician at the boys' industrial school, Pine Bluff.——Dr. Cadmus M. Brooks, Roland, has been appointed superintendent of the General Hospital, Little Rock, to succeed Dr. Milton Vaughan.——Dr. James F. Merrit has been appointed health officer of Hot Springs to succeed Dr. William L. Molt, resigned.

DISTRICT OF COLUMBIA

New Medical Building at Howard University.—A $500,000 three story building for the Howard University School of Medicine, Washington, is under construction at Fifth and W streets, N.W., west of the present medical building. When completed, it will accommodate about 300 more students than at present. It will be of red brick, trimmed with Indiana limestone; heat, light and power will be furnished from a central power plant at the Freedmen's Hospital. There will be an auditorium with a seating capacity of 500, and apparatus in the basement which will filter, humidify, heat and distribute throughout the anatomic section of the building 18,000 cubic feet of air per minute. The building is planned to group horizontally and vertically the laboratories and lecture rooms of closely related subjects. Four stair towers will make it possible to reach any laboratory direct from the exterior of the building without going through any other laboratory, and to use any part of the structure while the remainder of the building is locked. On completion of the building, the present structure will be remodeled for the departments of dentistry and pharmacy, the present wooden dental infirmary demolished, and the west side frontage landscaped. An appeal has been made to the public to assist Howard University School of Medicine in raising funds to complete a $500,000 endowment fund, and a similar amount for the new building; of the latter amount, on April 17, only $50,000 remained to be raised, while about $88,000 was needed to complete the endowment fund. The general education board of the Rockefeller Foundation has promised $250,000, provided a similar amount is raised by the school before July 1. The university student body and the alumni, it is said, have already contributed to the limit of their ability. Howard University School of Medicine and Meharry Medical College at Nashville, Tenn., are the only negro medical colleges in the United States.



FLORIDA

Bills Introduced.—Senate bill 231 and 232 would regulate the qualifications and the examination of applicants for licenses to practice optometry. Senate bill 184 and house bill 339 would require a physical examination of applicants

as a prerequisite to the obtaining of a marriage certificate. Senate bill 179 and house bill 325 define naturopathy, create a state board of naturopathic examiners and provide for the regulation of the practice of that profession.

ILLINOIS

Society News.—The Pike County Medical Society gave an all Chicago program at Pittsfield, April 28, and members of adjacent county medical societies were invited; Dr. N. S. Davis gave a paper on "Treatment of Heart Failure"; Dr. George E. Baxter, "Diarrheas of Infancy," and Dr. Elven J. Berkheiser, "Disabilities of the Hip."

Personal.—Dr. Karl M. Beck was appointed superintendent of the Lake County General Hospital, Waukegan, April 29, to succeed Dr. Charles Lieber, who has held the position for five years.——Dr. Paul W. Wipperman, head of the Decatur and Macon County Hospital, Decatur, was reelected president of the Hospital Association of Illinois, May 5.

Bills Introduced.—House bills 479 and 480 regulate the practice and licensing of drugless therapy. Senate bill 291 would prohibit the practice of medicine by corporations. House bill 411 would provide ways and means for extending the privileges of the University of Illinois to homeopathy, sanatology, osteopathy, chiropractic, naprapathy and naturopathy schools for teaching and demonstrating their methods in the arts of healing, promotion of health and prevention of diseases.

One Year in Jail for "Dr." Rein.—John J. Rein, a chiropractor, health commissioner of River Grove, was sentenced to one year in jail and fined $100, April 7, for practicing medicine without a license, it is reported. The case grew out of the death of two young boys who had been operated on at the Ashland Boulevard Hospital, Chicago, last July. Testimony at the trial indicated that Rein had prescribed drugs and was also present at the time that the operations were performed by Dr. Amante Rongetti. Rein's arrest was brought about by investigator John W. Follmer of the state department of registration and investigation.

Chicago

Personal.—Dr. Lester E. Frankenthal has given $1,195 to the University of Chicago to cover the cost of the obstetric and gynecologic library of Professor Fehling which has been conveyed to the university.——Mr. Charles W. Bergquist has been elected president of the Chicago Tuberculosis Institute. ——Dr. Ludvig Hektoen has been elected a member of the Norwegian Pathological Society in Oslo.——Julius Rosenwald has pledged $250 a month for the use of medical interns in the Freedmen's Hospital, Washington, D. C.

Hospital Opened.—The Chicago Memorial Hospital, formerly at Cottage Grove Avenue and Twenty-Ninth Street, opened its new hospital building at Lake Michigan and Thirty-Third Street on National Hospital Day, May 12, when a reception to friends, physicians and the public was given, and patients were received in the various departments. This is a five story structure with two basements and a foundation sufficient to accommodate twelve stories. The equipment is new and most modern, and the capacity about 100 beds. Sufficient funds were available to pay for the cost of the building, and the hospital's endowment amounts to about $1,000,000. The new hospital offers complete facilities for the diagnosis and treatment of disease, and a relatively new policy as regards the laboratory service in that it shall be available at all times as an integral part of the cost of service rather than on the basis of special charges for individual service.

Society News.—Dr. Hugo W. Traub, assistant professor of medicine, Northwestern University Medical School, gave a demonstration of a polycystic kidney before the Chicago Pathological Society, recently; at the May 9 meeting of the society, among others, Drs. Ruth Tunnicliff and Harry L. Huber reported a case of granular bronchonocardiasis; Dr. William F. Petersen and George Milles read a paper on "Chemical Alterations of Lymph in Bacterial Shock."——At the May 20 meeting of the Chicago Gynecological Society, Dr. William B. Serbin will read a paper on "Report of Three Hundred and Twenty Fetal Postmortems at the Chicago Lying-in Hospital," and Dr. Edward D. Allen, "Analysis of Thirty-Two Cases of Ectopic Pregnancy and of Three Cases of Suspected Ectopic Pregnancy."——The Illinois Society for Mental Hygiene has moved its office to 203 North Wabash Avenue, room 1008, telephone, State 4477.——Northwestern University Medical School furnished the May 11 program of the Chicago Medical Society; Dr. Merritt Paul Starr discussed "Methods Used in Determining Kidney Function"; Dr. William H. Holmes, "Nephrosis," and Dr. Don C. Sutton, "Renal Glycosuria."——The Chicago Ophthalmological Society will meet, May 23, at the Hotel Sherman; Dr. Alva B. Sowers will speak on "Retinitis Punctata Albescens," with a presentation of a brother and sister from the same family that was reported by Professor Lauber of Vienna in 1910. Dr. George F. Suker will speak on "The Optic Chiasm and Its Anatomic Relations from a Clinical Standpoint."——Judge Joseph B. David addressed the annual meeting of the Chicago Roentgen Society, May 12, on the "Roentgenologist in Court."

Home for Students in Medical Center Opens.—The Young Men's Christian Association will dedicate its new ten-story professional building, Congress and Wood streets, May 29, which has been erected as a home for the medical, dental and pharmacy students in the various institutions in this great medical center. There are rooms for 348 students, with facilities for exercise and competitive games, and forty additional rooms for physicians and others engaged in postgraduate work, or who accompany patients to the hospitals. In the immediate neighborhood are Cook County Hospital, Rush Medical College, Presbyterian Hospital, Durand Hospital, University of Illinois colleges of medicine, dentistry and pharmacy and hospitals, and Loyola University colleges of medicine and dentistry and hospitals. Twenty-two members of the faculties are on the committee of management of this new institution, whose advantages are open to men of the community regardless of religious affiliation. The students themselves subscribed $50,000 toward the building, the faculties and alumni $150,000, Dr. Truman W. Brophy donated the site, and the remainder of the $870,000 was advanced by the trustees of the Chicago Y. M. C. A. Physicians and other professional men are invited to the dedication, Sunday, May 29, and to inspect the building. The executive secretary is Mr. Lucius C. Hollister; the telephone, West 2660.

IOWA

Drs. Rowan, Rohner and McElroy Resign.—Dr. Charles J. Rowan, head of the department of surgery of State University of Iowa College of Medicine, Iowa City, resigned, May 4, it is reported. Dr. Rowan was formerly assistant professor of surgery at Rush Medical College, Chicago, and took up his work at the University of Iowa in 1914. Dr. Frank J. Rohner, assistant professor of theory and practice of medicine, State University of Iowa College of Medicine, is also reported to have resigned, May 4. Dr. Jesse L. McElroy, superintendent of the University Hospital, has tendered his resignation.

Society News.—Dr. Samuel T. Orton, Iowa City, addressed the Lynn County Medical Society, Cedar Rapids, April 14, on "Psychiatry as Related to the General Practice of Medicine," illustrated with lantern slides.——The Lynn County Medical Society celebrated the fiftieth anniversary of membership in the society of Dr. George E. Crawford, Cedar Rapids, March 10; Dr. Crawford, among other offices, has been councilor for the fifth district for the last twenty-four years.——The Medical Society of the Missouri Valley will celebrate its fortieth anniversary in Des Moines, September 14-16. There will be a complete reorganization of the society at this meeting.——Among others, Dr. Paul S. Rhoads of the Scarlet Fever Committee, Chicago, addressed the Iowa Public Health Association, Council Bluffs, May 10, on "Control of Scarlet Fever Epidemics, with Especial Reference to Immunization."

State Medical Meeting.—The seventy-sixth annual meeting of the Iowa State Medical Society was held at Council Bluffs, May 11-13, under the presidency of Dr. Thomas E. Powers, Clarinda, with the Pottawattamie County Medical Society acting as host, the president of which, Dr. William P. Hombach, Council Bluffs, gave the address of welcome. The guests of honor were Dr. John H. Musser, professor of medicine, Tulane University of Louisiana School of Medicine, New Orleans, who delivered the address on medicine on "Disorders of the Blood"; Dr. George V. I. Brown, Mil-

waukee, delivered the address on surgery on "Plastic Surgery of the Present Day as Related to General Practitioners and the Layman," and Dr. Gabriel Tucker of the Bronchoscopic Clinic, Philadelphia, whose subject was "Suppurative Diseases of the Lung," demonstrated by cases, lantern slides and moving pictures. The annual banquet was held at the Hotel Chieftain. There was a garden party at the home of Mrs. Donald Macrae, Jr., Council Bluffs, and a supper Thursday following the scientific session.

KANSAS

School for Health Officers.—The sixteenth annual School for Health Officers and Public Health Nurses was held at Topeka, April 11-14, by the state board of health in cooperation with the U. S. Public Health Service, the International Health Board, and the National Committee for the Prevention of Blindness. Governor Paulen gave the welcoming address. Among others, Dr. John F. Anderson, New Brunswick, N. J., director of laboratories, E. R. Squibb and Sons, spoke on "Preparation, Testing, Storage and Use of Biologic Products," with moving pictures; Dr. Don M. Griswold, Iowa City, "Disinfection After Infectious Diseases," and Dr. Noble P. Sherwood, professor of bacteriology, University of Kansas School of Medicine, "Importance of Milk in Public Health."

LOUISIANA

State Medical Election.—At the annual meeting of the Louisiana State Medical Society, New Orleans, April 29, Dr. Arthur A. Herold, Shreveport, was installed as president; Dr. Leon J. Menville, New Orleans, was made president-elect; Dr. Jackson J. Ayo, Raceland, appointed speaker of the house of delegates, and Dr. P. T. Talbot, New Orleans, secretary-treasurer, reelected; the next meeting will be held at Baton Rouge.

Hospital Just Behind the Levee—Situation Satisfactory.—The medical officer in charge of the National Leprosarium at Carville, which is on the bank of the Mississippi River just behind the levee, has reported the flood situation to the Surgeon General, U. S. Public Health Service, in part as follows: "Our local levee situation from the present outlook is very satisfactory. . . . We have been assigned approximately three miles of levee, which Mr. Tarbell and our day laborers are maintaining. This, of course, means that all activities excepting immediate care of patients and sanitation have been dispensed with until the present emergency passes. There seems no reason to believe that the three mile stretch of levee referred to will be subject to any especial strain, and the probability is that should a crevasse occur outside our own peninsula, we shall get very little, excepting a backwater without current, since we are from 4 to 8 feet upgrade. We have laid plans to keep at least 3 feet of water out of our power house so that, should the reservation flood, we can operate and maintain sanitation. Plans, of course, have been made for the storage of a whole month's food supply at strategic points, and our launch and boats will be brought from the river if it appears that they are necessary to convey doctors and nurses about the reservation. It seems probable that water would not in any event reach the levels of our covered walks."

MARYLAND

Dr. Brush Honored.—A large number of friends of Dr. Edward N. Brush, Mount Washington, superintendent emeritus of the Sheppard and Enoch Pratt Hospital, Baltimore, attended a dinner at the Maryland Club, April 23, given by the trustees of the hospital to celebrate his seventy-fifth birthday. For thirty years, Dr. Brush has been on the editorial board of the *American Journal of Psychiatry*, and since 1904 has been the editor-in-chief.

Medal Awarded to Dr. Welch.—Dr. William H. Welch, professor of the history of medicine, Johns Hopkins Medical School, and formerly director of the school of hygiene and public health, was awarded the 1927 medal for scientific research in medicine by the Association of American Physicians. The award was made by Dr. George M. Kober of the Georgetown University Medical School, at the recent convention of the association at Atlantic City. The medal was given Dr. Welch in recognition of the many contributions made by him to medical science.

Fake Health Officer Examines Children.—Posing as a health department physician, a man identified as Rayner Myers, 38 years old, appeared in Baltimore, April 21, and demanded that mothers produce their children for examination. The man made his appearance at a home in the 1000 block, Ridgely Street, and although he did not carry instruments or methods of identification, asserted he was a health department physician to search for skin diseases among school children in South Baltimore. He pronounced a child suffering from "badly inflamed tonsils" when the boy's tonsils had been removed a year ago. After several such visits, he was refused examination of two children, whose mother preferred to have her family physician examine her daughters. She called a policeman who arrested Myers. He is being held under $25,000 bail at the Southern Police Station for the action of the grand jury on charges of assault.

MASSACHUSETTS

Society News.—At the eighty-sixth annual meeting of the Essex North District Medical Society, Shawsheen Village, May 4, Dr. Sara M. Jordan, Boston, discussed "Peptic Ulcer," and Dr. Frank A. Pemberton, Boston, "Progress of Gynecology."——Dr. Hugh Cairns, Boston, addressed the Harvard Medical Society, April 26, on "The Life of the Medical Student in England," and Dr. William L. Aycock, Boston, on "Milk-Borne Epidemic of Poliomyelitis."——At the annual meeting of the Massachusetts Tuberculosis League, April 26, Boston, John A. Kiernan of the U. S. Bureau of Animal Industry discussed the "Eradication of Bovine Tuberculosis in the United States," and Dr. James S. Stone, president of the Massachusetts State Medical Society, "Progress of Tuberculosis Work"; Dr. Kendall Emerson, Worcester, president of the league, presided.——About sixty women physicians and other prominent women of Boston attended a reception, April 25, at the home of Mrs. Oakes Ames; the guests of honor were Dr. Martha Tracy, dean, Woman's Medical College of Pennsylvania; Mrs. James Starr, president of the corporation, and Miss Alice Stone Blackwell. Among other subjects discussed was the campaign to raise $1,500,000 for the new building and endowment fund.

MICHIGAN

Bills Introduced.—Senate bill 390 would provide for the supervision of laboratories where pathogenic germs are handled. Senate bill 393 would provide for the physical examination of chauffeurs.

Personal.—Governor Green has announced the appointment to the state board of registration in medicine of Dr. Samuel Edwin Cruse to succeed Dr. Alfred W. Hornbogen, resigned, and the appointment of Dr. William A. Lemire, Escanaba, to succeed Dr. Ray C. Stone, Battle Creek, resigned.——The home of Dr. George L. LeFevre, Sr., Muskegon, was recently destroyed by fire.——Dr. Lloyd B. Whitman, physician to the Michigan Reformatory at Ionia and city health officer, has resigned, and will be succeeded by Dr. Ernest G. Bellinger, De Witt.

MISSOURI

Personal.—Dr. Joseph T. Brennan, Grandview, has been appointed county health director at a salary of $4,000 a year; Dr. Brennan succeeds Dr. Frank G. Crandall, who resigned to go to California.——Dr. Jabez N. Jackson, Kansas City, President Elect of the American Medical Association, addressed a public meeting under the auspices of the Central States Savings and Loan Association of Missouri, April 13, at St. Joseph on "The Value of Savings and Loan Associations to the Professional Man."——Dr. Prentiss S. Tate has been appointed assistant physician of state hospital number 4 at Farmington.——Dr. Dominick M. Nigro has been appointed commissioner of child hygiene and communicable diseases in the Kansas City Department of Health, succeeding Dr. John L. Lavan.——The fellowship established by a gift from Theron E. Catlin for the study of communicable diseases at the St. Louis Children's Hospital has been awarded to Dr. Edith I. M. Irvine-Jones of the University of California. The research will be on influenza.

Eleemosynary Board Discharges Psychiatrists—Colonel White Resigns.—The state eleemosynary board, which supervises institutions caring for more than 7,000 persons, discharged Dr. George A. Johns, April 18, from the position of state health supervisor, and Dr. M. O. Biggs, who, for many years, has been superintendent of the Fulton State Hospital. Both men are considered able physicians. The action of the board is said to have been a political move in disregard of the state law to retain men as long as they are efficient. In protest against the action of the board, Col. R. M. White, a member, immediately resigned. Colonel White has been

a member of the board since its organization, and before was a member of the Fulton Hospital Board, altogether a service of twenty-eight years. In his letter of resignation to the governor, Colonel White stated that the present board is not carrying out the intent of the nonpartisan eleemosynary law. In place of the two physicians discharged by the board, Dr. Frank A. Fuson, an assistant physician in the Farmington Hospital, was appointed to succeed Dr. Johns, and Dr. Elmer T. McGaugh, Richmond, to succeed Dr. Biggs.

NEW HAMPSHIRE

Society News.—The New Hampshire Surgical Club held its twenty-ninth semi-annual meeting at Keene, May 3, with a clinic in the morning and scientific papers in the afternoon. Dr. Ira J. Prouty, the only living charter member of the club, was chairman of the committee on arrangements. Dr. Prouty was also the first secretary of the club.——The lower house of the state legislature passed a resolution, March 11, to appropriate $15,000 for improvements at the state sanatorium at Glen Cliffe.

Personal.—Dr. Andrew L. MacMillan, Jr., Concord, was elected president of the Merrimack County Medical Society, April 13, at which meeting Dr. Paul N. Jepson, Boston, gave an address on the "Commoner Fractures of the Arm and Forearm."—— Dr. Montford Haslam has been appointed health director at St. Paul's School, Concord, to succeed Dr. James H. Townsend, resigned to engage in practice in Boston; Dr. Haslam will take up his work in September.—— Dr. Clarence E. Howland was elected a member of the school committee of Dartmouth in the annual town election, March 7.

NEW YORK

Personal.—Dr. Lester M. Coulter has been appointed full-time city health officer of Watertown, and will take over the duties heretofore performed by several part-time health officers.——Dr. George E. Brewer was guest of honor at a dinner at the Bellevue-Stratford Hotel, April 29, given by the American Society for the Control of Cancer.——Dr. Leo F. Schiff, health officer of Plattsburg, has been appointed a trustee of the Ray Brook hospital for incipient tuberculosis.

New York City

Increase in Dog Bites—Two Fatalities.—During the first quarter of this year, 1,898 persons in the city were bitten by dogs, of which 153 were rabid, according to a special writer in the New York *Herald Tribune*. Two persons died of rabies. The number of rabid animals increased nearly 90 per cent over the corresponding period last year, when there were eighty-two. The number of rabid dogs has been increasing since 1920. There are said to be 175,000 dog licenses in force in New York City. The number of dog bites (8,608) during the year 1926 exceeded by thirty-seven the total number of bites during the period from 1916 to 1925, inclusive. The city department of health draws attention to this situation and to the danger of adopting stray dogs, and requests the cooperation of the public in keeping dogs muzzled.

Diphtheria Elimination.—A general attack on diphtheria in New York opened, April 16, and will continue throughout May in an attempt to drive the disease from the city. Physicians are being supplied with free toxin-antitoxin, literature and posters, and 30,000 folders containing messages to parents have been distributed to children in schools and private clinics. The department of health has enlarged the staffs in the four baby health stations of the Bellevue-Yorkville district, and private clinics are emphasizing diphtheria immunization. Letters were sent to seventy-five clergymen and to eighty district agencies, and prominent citizens have endorsed the campaign for publicity purposes. The newspapers are cooperating intensively, and the four local medical societies have scheduled talks on toxin-antitoxin for their regular meetings; 1,400 private physicians have received letters signed by the presidents of medical societies and by the commissioner of health urging their cooperation. Ten local motion picture houses are showing a health film, and three radio stations are broadcasting the message. Metropolitan agents are carrying folders from house to house; seven large prominent billboards in the Bellevue-Yorkville district have been donated for this campaign, and block chairmen of the Kips Bay Neighborhood Association are distributing 1,000 posters. Dr. William H. Park gave a demonstration at the May 10 meeting of the East Side Clinical Society and a talk on toxin-antitoxin; Dr. Park broadcast, April 27, from Station WJZ, information on toxin-antitoxin and the significance of the May Day child health program.

NORTH DAKOTA

Clinic for Crippled Children.—Dr. Wallace H. Cole, St. Paul, conducted an orthopedic clinic at the Fargo Child Health Demonstration, March 23, under the auspices of the Rotary Club, and in the evening addressed the Cass County Medical Society at a dinner. The clinic included crippled children throughout the county.

Society News.—Dr. Robert H. Ray, Garrison, addressed the Northwestern District Medical Society at Minot, March 30, on "Toxic Goiter" and Dr. Archibald D. McCannel, Minot, "Business Methods in the Medical Profession."——Dr. Frank E. Burch, St. Paul, Minn., will be the visiting clinician at the meeting of the North Dakota Academy of Ophthalmology and Oto-Laryngology, Grand Forks, May 31.

OREGON

Rockefeller Foundation's Gift to Medical School.—It was announced, April 20, by the president of the University of Oregon and the dean of the medical school, that the general education board of the Rockefeller Foundation, New York, had made a gift of $130,000 to the medical school. The president and the dean are said to have made a trip to New York several months ago to present the request, which was reported as follows:

For equipment throughout the medical center, including the medical school, Doernbecker Hospital, Multnomah County Hospital and Portland Free Dispensary, $63,000.

For salaries and certain salary increases during six years, $57,000

For additions to the medical school library, $4,000. This will enable the purchase of a large number of periodicals of a scientific nature, and will make possible the placing of the library on a more complete basis than any medical library in the northwest.

For expenses incidental to the travel of full-time professors in the medical school to attend scientific meetings outside of the state, $6,000.

The general education board in 1920 donated $113,000 to the medical school to match a similar appropriation from the state for construction, and made another gift of $50,000 for the purchase of equipment. It is stated that in the last ten years the medical school has received a total of $1,000,000 in gifts from within and outside the state, and that this amount practically equals the investment of the state.

PENNSYLVANIA

Research Fellowships Available.—The Henry Phipps Institute, Philadelphia, announces that fellowships in clinical medicine, with major emphasis on tuberculosis, experimental pathology and bacteriology, are open to doctors of medicine, philosophy or science who have elected a fundamental medical science as a major subject. Fellowships in clinical research are open to physicians who desire clinical research in special reference to tuberculosis and related conditions. The clinical facilities of the institute will be available, half of each day being spent in the dispensary and the remainder on general medicine or research, as preferred. Fellows will receive from $1,500 to $2,500, in accordance with their special training. Applications should be addressed to Dr. Henry R. M. Landis, Henry Phipps Institute, Seventh and Lombard streets, Philadelphia.

County Society's Postgraduate Course.—The Berks County Medical Society arranged for a postgraduate course on tuberculosis at Neversink Mountain Sanatorium, April 11-20. The classes were limited to ten physicians; the fee was $5. Dr. William P. Brown, medical secretary, Pennsylvania Tuberculosis Society, was in charge of the course, and was assisted by Dr. Solis C. B. Hertzog, superintendent of the sanatorium. Other speakers were Dr. Isadore Kaufman, Philadelphia, "Activity of the Disease"; D. Henry A. Gorman, Hamburg, "Incipient Tuberculosis and Treatment by Pneumothorax," and Dr. Elmer H. Funk, Philadelphia, "Treatment Routine for Best Results." Dr. Brown states that since this course has been established several counties have applied to the tuberculosis society to have a similar presentation in their communities.

Philadelphia

Dr. Dercum Honored.—At the two hundredth anniversary celebration of the American Philosophical Society, Philadelphia, April 28, Dr. Francis X. Dercum, emeritus professor of nervous and mental diseases, Jefferson Medical College, was elected president to succeed the late Charles D. Walcott, director of the Smithsonian Institution. In the history of this society, fifteen of its members were signers of the Declaration of Independence, it is reported, eight were presidents of the United States, and seven received Nobel prizes. Fifteen new members were elected at this anniversary.

Society News.—At the April 27 meeting of the Philadelphia County Medical Society, Dr. Martin E. Rehfuss gave an address on "Suggestions of Diagnostic Value to the General Practitioner in the Diagnosis of Diseases of the Gallbladder," and Dr. Verne G. Burden on "Sins and Sorrows of the Gallbladder"; the discussions were opened by Drs. John B. Deaver and Stanley P. Reimann.——Among others, Drs. Walter E. Lee and William U. McClenahan addressed the Philadelphia Academy of Surgery, May 2, on "Treatment of Burns with Report of Two Cases, Complicated with Curling's Ulcers of the Duodenum," and Dr. George L. Carington, "Some Factors and End-Results in the Experimental Surgery of the Esophagus."——Dr. George E. Pfahler addressed the Philadelphia Roentgen Ray Society, May 5, on "Observations on the Saturation Method," and James A. Wetherwax, "Comparative Study of Dosage Technic in Radiation Therapy."——Dr. Leonard Averett addressed the Obstetrical Society of Philadelphia, May 5, on "Artificial Insemination"; Dr. John C. Hirst, 2d, "Technic of Using Lipiodol in Gynecologic Diagnosis," and Dr. Roy W. Mohler, "Operation Risks in Gynecology and Their Management."——The Philadelphia Child Guidance Clinic is nearing the end of a two year period that was agreed on at first, and a plan has been worked out to make the clinic permanent that calls for an annual budget of $60,000 for the next two and one-half years.——The American Proctologic Society will meet in Philadelphia, May 12-14, at the auditorium of the Philadelphia County Medical Society, Twenty-First and Spruce streets; Dr. Frederick S. Baldi, president, Philadelphia County Medical Society, will give the address of welcome.

TENNESSEE

Bills Introduced.—Senate bill 973 and house bill 1353 would regulate the practice of optometry, and would provide for the licensing of optometrists.

Tennessee Admitted to Registration Area.—The state health officer, Dr. Eugene L. Bishop, announces that Tennessee has been admitted to the U. S. Birth Registration Area for 1927.

TEXAS

State Medical Election.—At the annual meeting of the State Medical Association of Texas, El Paso, April 28, Dr. Joseph Gilbert, Austin, was installed as president; Dr. Felix P. Miller, El Paso, was made the president-elect; Drs. Henry R. Link, Palestine, Arthur H. Flickwir, Houston, and William N. Wardlaw, Palestine, were elected vice presidents; Dr. Holman Taylor, Fort Worth, was elected secretary and editor-in-chief, and Dr. Witten B. Russ, San Antonio, a member of the board of trustees.

Society News.—Dr. Victor C. Vaughan, formerly dean of the University of Michigan School of Medicine, Ann Arbor, addressed the Bexar County Medical Society, San Antonio, recently, on hospitals in Hawaii, Japan, Korea, China and the Philippines, and Dr. Joseph B. DeLee, Chicago, on "Latest Treatments of Some Complications of Pregnancy." At the March 3 meeting of the Bexar County Medical Society, Major Norman T. Kirk, Medical Corps, U. S. Army, spoke on "The Splinting of Fractures for Transportation." This talk was illustrated by an exhibition of the various fracture appliances used by the army, and by lantern slides.

UTAH

Society News.—The Woman's Auxiliary of the Salt Lake County Medical Society gave a card and dance party in the new Medical Arts Building, March 1, which was in the nature of a house warming. Dr. Paul S. Richards, Bingham Canyon, addressed the Salt Lake County Medical Society, March 14, on "Treatment of Epidemic Cerebrospinal Meningitis."——Dr. Andrew J. Hosmer, Salt Lake, addressed the Utah County Medical Society, February 2, on "Burns and Skin Grafting."

Mental Hygiene Survey.—At the invitation of the governnor, the National Committee for Mental Hygiene recently made a survey of mental hygiene problems in Utah. Officials and prominent citizens cooperated in the survey, which was made by Dr. George L. Wallace, of the executive committee of the National Committee for Mental Hygiene and completed February 5. The *Mental Hygiene Bulletin*, says that Utah has one state hospital which is overcrowded and no separate school for the feebleminded. Dr. Wallace recommended the establishment of a central board of control over all state institutions and a change in the commitment law for mental cases providing for abolishing numerous antiquated sections of the present law and inserting new passages providing for temporary care and observation for patients requiring early treatment. Other recommendations were that the feebleminded now in the hospital for mental disease be removed to a separate institution; that the state hospital's medical staff be increased; and that a department of occupational therapy be developed and another for psychiatric social work. The governor personally read a message to the legislature urging the adoption of the report of the survey.

WYOMING

New State Board of Health.—The first meeting of the new state board of health of Wyoming was held at Cheyenne, April 25; Dr. Albert B. Tonkin, Riverton, was elected president; Dr. Walter H. Hassed, Lusk, was appointed secretary by the governor; Dr. George M. Anderson, Cheyenne, was reappointed to the board, and Drs. George L. Strader, Cheyenne, and Thomas E. Marshall, Sheridan, are the other new members.

GENERAL

Cooperation in Flood Relief Work.—Following a conference called by the President and Secretary of the Treasury, it was arranged to have the U. S. Public Health Service cooperate with the American Red Cross in flood relief work in the Mississippi Valley, and the health officers of the states affected were notified of the method to be followed. Senior Surgeon John McMullen was assigned to cooperate with the national disaster director of the Red Cross, Memphis, Tenn., to serve as liaison officer between state health officers, public health service, and other agencies in connection with the prevention of epidemic diseases in the flooded area, and two other medical officers were directed to report to Dr. McMullen as assistants.

April Automobile Deaths Increase.—In the four weeks ending April 23, in seventy-eight large cities of the United States, there were 491 deaths due to automobile accidents whereas in the same period last year the number of deaths was 423. For the fifty-two weeks ending April 23, the total number of automobile deaths in these cities was 6,925, whereas for the previous fifty-two weeks the total was 6,289, an increase of 8 per cent in the rate per hundred thousand of population in one year. In reporting these figures, the U. S. Department of Commerce notes that only eight of these cities reported no fatalities in the four weeks ending April 23, 1927, while eleven cities reported no deaths in the corresponding period last year.

Meeting of Clinical Pathologists.—The American Society of Clinical Pathologists will hold its sixth annual convention, May 13, 14 and 16, Willard Hotel, Washington, D. C. In addition to a symposium on the Kahn test, a variety of subjects will be discussed at the four scientific sessions, Friday and Saturday. At the annual banquet, Saturday evening, the president, Dr. William G. Exton, Newark, N. J., will discuss the "Relation of Clinical Pathology to Preclinical Medicine"; Dr. Malcolm T. MacEachern, Chicago, will discuss the "Relation and Responsibilities of the Clinical Pathologist to the Hospital Standardization Movement." Other speakers will be Dr. Morris Fishbein, Chicago, and George K. Burgess and Dr. George W. McCoy, Washington, D. C.; the business session will be Monday morning.

Change in Meeting of Teachers of Diseases of Children.—The annual meeting of the American Association of Teachers of the Diseases of Children has been changed to 10:30 a. m., May 17, on account of the memorial exercises at Arlington Cemetery, Washington, D. C., during the annual session of the American Medical Association. Dr. Franklin P. Gengenbach, Denver, will give the president's address, and Dr. Matthew L. Turner, Des Moines, will speak on "Infant Feeding: Science vs. Nature." Other subjects to be discussed will include: Dr. John L. Morse, Boston, "Technic of Teaching"; Dr. William L. Funkhouser, Atlanta, Ga., "Correlating Preventive Pediatrics with Clinical Teaching," and "Needed Reforms in Teaching of Pediatrics," Dr. Jesse R. Gerstley, Chicago. The luncheon will follow at the Hotel Willard at 12 o'clock.

Medical Library Association Meeting.—The thirtieth annual meeting of the Medical Library Association will be held at the Army Medical Museum, Seventh and B streets, S.W., Washington, D. C., May 16-17, under the presidency of Dr. John Ruhrah, Baltimore. Lieut. Col. Fielding H. Garrison, U. S. Army, will speak on "The Combined Quarterly

Cumulative Index Medicus"; Dr. Thomas Archibald Malloch, New York, on "The New Library of the New York Academy of Medicine," and Dr. Charles F. Wylde, Montreal, "Binding in a Self-Owned Plant." There will be a discussion on "The Importance of Incunabula, Early Printed Books and Classic Texts"; another on "Medical Deficiencies" and another on "Information, Reference and Bibliography Service." A visit to the Library of Congress, and a brief descriptive talk about the library, has been arranged for Tuesday afternoon.

American Child Health Association.—This association held its fourth annual meeting at Washington, D. C., May 9-11, under the presidency of Herbert Hoover, whose address was on "The Health of the Child in the Nation's Welfare"; William Green, president, American Federation of Labor, discussed "Child Health and the Federation of Labor," and Dr. Samuel J. Crumbine, New York, general executive of the association, "What the American Child Health Association Is Doing." There were symposiums on: child health and the medical school, participated in by members of the pediatric departments of six universities; trends in federal and state child health work, by representatives of the federal health service and various state departments of health, the U. S. Children's Bureau, and the Department of Agriculture; the school and child health; the promotion of child health through recreation, and progress in child health as viewed by national organizations.

Society News.—At the nineteenth annual meeting of the American Society for Clinical Investigation, Atlantic City, May 2, Dr. Homer F. Swift of the Rockefeller Institute, New York, was elected president; Dr. Solomon Strouse, Chicago, vice president; Dr. Joseph T. Wearn, Boston, secretary, and Dr. George Sorrop, Brooklyn, treasurer.——The Special Libraries Association will hold its annual meeting at Toronto the week of June 20.——The fifty-first annual session of the American Association for the Study of the Feebleminded will be at the Hotel Sinton, Cincinnati, Ohio, June 4-6, following the meeting of the American Psychiatry Association which closes in Cincinnati, June 3; there is published a list of contributors to the program.——The Women's Medical Society of the District of Columbia will entertain the Medical Women's National Association at a picnic supper, May 15. Registration for the thirteenth annual meeting will be at the Mayflower Hotel, Monday morning, May 16; Dr. Frances E. Rose, Spokane, Wash., will deliver the president's address, Monday afternoon.

Sanitation in Flooded Areas of Mississippi Valley.—Reports that have been received by THE JOURNAL indicate that the acute sanitary problems arising out of the flood in the lower Mississippi Valley are well in hand and that plans for the restoration of the refugees to their homes as the waters recede are under way. The authorized refugee camps in the state of Mississippi now contain, it is said, about half of the inhabitants of the overflowed districts. The rest are scattered in unauthorized camps, are being cared for by relatives or friends, or have accommodated themselves as best they could in their own homes or other buildings on their premises. The authorized camps have been erected and are being policed by the national guard of the state. Sanitary control is under direction of the state health officer, acting in conjunction with the local health units. The American Red Cross has furnished services and supplies without stint. The people of the several communities in which these camps are located have united as a unit to support them. Few cases of acute communicable diseases have been brought in with the refugees, and in no case has there been any spread of infection. Practically all the refugees in these camps have been vaccinated against typhoid, probably more than half of them have been vaccinated against smallpox, and some have been vaccinated against diphtheria. Quinine has been freely used to cure and prevent malaria. The sickness rate in these camps compares favorably with the sickness rate in the average community under normal conditions.

While the report received has reference particularly to the state of Mississippi, information from other sources is to the effect that efficient programs are being carried out in Arkansas, Louisiana, Kentucky and Tennessee, so far as the flood situation in each state requires.

Most of the inmates of the camps, authorized and unauthorized, will return to their homes in no worse condition than that in which they left them. They will be protected by vaccination against typhoid, and to a less extent against smallpox and diphtheria. Those who have been unable or unwilling to find refuge in camps will probably continue to suffer from the results of exposure and hardship, from inadequate and ill balanced diet, and from diarrheal diseases and fever resulting from the use of polluted water and poor food. In the flooded area the contents of privies have been washed out of the receptacles, and many privies have been destroyed. Sewer systems have been put out of operation. Public water supplies have been contaminated. Private wells for homes and dairy farms have been contaminated and will prove difficult of purification. Screens for windows and doors have been destroyed, and pools for the breeding of mosquitoes will remain as the waters recede. Houses will be left filled with ooze and slime. Many persons will be without usual means for providing clothing and adequate food. How long these problems will continue, no one can say.

The American Red Cross has already announced its program for this readjustment period, to continue so long as insanitary conditions and distress can be attributed directly to the flood. Wherever state health and local officials are not prepared to handle the situation satisfactorily, the American Red Cross will, to the extent to which relief funds are available, furnish personnel and materials to supply the need. The Red Cross program provides for support of typhoid immunization, not only among refugees but also among all the people of the affected area. Vaccines will be supplied, and doctors and nurses will be provided, if necessary, to supplement those provided by the community. Sanitary engineers and laboratory technicians, laboratory equipment, chlorinating apparatus for the purification of water supplies, and disinfecting materials such as chlorinated lime will be furnished as a part of the campaign for the prevention of typhoid, dysentery and summer diarrhea. For the prevention of malarial fever, materials and labor will be furnished, and quinine will be available, if necessary, to carry out adequate programs according to the usual methods approved by the state department of health. Essential labor and equipment, to supplement the labor and equipment provided by state and local authorities, will be supplied by the American Red Cross so far as funds may be available and the inadequacy of the resources of the state and local authorities make necessary to insure proper disposal of human excreta, dead animals, and other putrescible animal and vegetable matter. If adequate money is provided to carry this program into effect, the people of the flooded areas should in the end be no worse off so far as health is concerned than they were before the flood overtook them.

The outstanding sanitary lesson of the flood is the necessity for full-time health officers in states and counties, with adequate health organizations behind them. If the flood results, as well it may, in the establishment of that system of health administration, some permanent benefit will have come out of the general catastrophe.

FOREIGN

Personal.—Dr. W. O. Fischer, since 1919 engaged in research work with Bayer 205 in the Congo, Africa, has been appointed special medical research officer to the Rand Mines; Dr. Fischer has a laboratory at City Deep, and his initial investigation has been on hookworm in mine natives.

Prizes for Senior Students.—Following an announcement last July that the British Medical Association would award prizes of £10 each for essays by "final year" students on "Three Types of Cases of Thyroid Enlargement with Their Treatment," ten prizes have been awarded. The essays were examined by a committee of four distinguished members of the association, and the president of the association signed a check for £10 for each winner.

French Congress of Medicine.—The nineteenth French Congress of Medicine will be held in Paris, October 10-13, under the presidency of Professor Teissier. The subjects for discussion will be (1) "Symptomatology of Medical Septicemias"; (2) "Physiopathology of Edema"; (3) "Medical Indications and Comparative Value of Splenectomy." For members the fee will be 50 francs; for associate members, medical students and families of members, 25 francs; Dr. M. Chiray, general secretary, 14 Rue Petrarque, Paris XVIe, should be addressed for further information.

German Health Week in Czechoslovakia.—A league of relief associations for the tuberculous, with headquarters in Prague, and representing three million Germans in Czechoslovakia, held a health week, May 1-8. The first German Health Week in Czechoslovakia was held in June, 1926. It was a success and a second health week was held this year on a larger scale. Dr. Frank Swoboda, manager of the German Tuberculosis Association in Prague, appealed to

American friends for funds that prizes might be offered in an effort to popularize the health movement.

Congress of Stomatologists.—Information about the Congress of Stomatologists, to be held in Paris, October 20-30, can be obtained from the general secretary, Dr. Leclercq, 9 Brd. de la Madeleine, Paris. The subjects for discussion include "Oral Hygiene of Children in School and at Home" and "Sterilization in Stomatology." There will be reports on "Surgical Extraction of Teeth" and "Osteitis of the Inferior Maxillary Bone." There will be an exhibition of instruments and apparatus in connection with this congress. One session will be devoted to the International Stomatologic Union.

Deaths in Other Countries

Prof. **Max Hofmeir,** formerly director of the gynecologic clinic of Wurzburg University, April 4.——**David MacEwan,** emeritus professor of surgery, University College, Dundee, Scotland, March 31, aged 80.

Government Services

Unusual Number of Army Officers Await Retirement

A program has been inaugurated in the war department to bring the officer personnel of the army up to perfect physical condition through the drastic enforcement of the rule that officers must all be qualified for immediate field service. In accordance with this plan, army medical examiners were notified, prior to the annual physical examination of army officers in January, that the regulations governing such examinations must be strictly applied. As a result, an unusual number of officers have been ordered to general hospitals preparatory to retirement for physical disabilities. The present program is being carried out under the director of Major General Charles P. Summerall, chief of staff, whose policy is to keep on active duty only those officers who are capable of assuming, without notice, the difficult duties of field service. Unless the program encounters interference from outside sources, General Summerall proposes to have an army officered by men who, without advanced preparation, may leave their desks and perform the most arduous field duty. This plan would give the younger men in the service more rapid promotion, and would generally improve the morale of the entire service, it is declared.

U. S. Public Health Service

Surg. John D. Long has been relieved from duty at Santiago, Chile, and directed to proceed to Balboa Heights, Canal Zone, to report to the governor of the Canal Zone for duty as chief quarantine officer.——Surg. Howard F. Smith has been relieved at Washington, D. C., and assigned to duty at Dublin, Irish Free State.——Surg. Tully J. Liddell has been relieved from duty at Washington, and assigned to duty at Stockholm, Sweden.——Acting Assistant Surgeon Oscar V. Linhardt has been ordered to duty with the bureau of mines, Washington, D. C.——Surg. Walter C. Teufel has been relieved from duty at Stockholm, Sweden, and assigned to duty at Berlin.——Dr. Langdon R. White has been commissioned in the grade of assistant surgeon.——Acting Assistant Surgeon George B. Story has been relieved from duty at Seattle and assigned to duty at Winnipeg, Canada, and Acting Assistant Surgeon Earl C. Kading has been relieved at Winnipeg and assigned to the immigration station, Angel Island, California.——Passed Assistant Surgeon Ralph L. Lawrence has been relieved from duty at Manila, P. I., and assigned at the quarantine station, Angel Island, California.

Patients in Army Hospitals

There were 6,001 patients in the U. S. Army Hospitals in the United States, March 5, while on the same date in 1926, the total number was 6,538. Of the 6,001 patients, 3,370 were active army personnel; twenty-one active navy personnel; 1,902 beneficiaries of the veterans' bureau; 175 beneficiaries of the soldier's home, and 533 other civilians which include retired army and navy personnel, dependents of officers and enlisted men, and other civilians whose admission to the army hospitals is authorized. Of the total number hospitalized, March 5, 2,097 were in the various station hospitals.

Foreign Letters

LONDON

(From Our Regular Correspondent)

April 30, 1927.

Street Accidents

The appalling increase of street accidents since the advent of motor cars has been reported from time to time. During the last six years, fatalities have increased by about 55 per cent and injuries by about 125 per cent. The rapid growth in the numbers of mechanically propelled vehicles has been accompanied by an ever increasing use of the streets by pedestrians unequipped by habit, knowledge and experience to protect themselves against the new hazards. Until comparatively recent years, greater London was an aggregation of a number of more or less independent communities. It has now been transformed by the motor car into one single community, with a transportation system bringing all the elements of the population into closer contact. Business and shopping have become more and more centralized, and what were formerly the outer towns and villages are becoming more and more mere dormitories of London. The numbers of persons carried by means of omnibuses, street cars, subways and other railways increased from about 1,100 millions in 1902 (160 journeys per head of population) to 2,215 millions in 1913 (300 journeys per head), and to over 3,600 millions (460 journeys per head) in 1925. Some drivers of vehicles are frequently guilty of negligence, and a smaller number of dangerous and reckless driving. The ministry of transport had a conference on street accidents in greater London convene. Representatives numbering 300 from various local authorities and the police were present. Lieutenant-Colonel Ashley, minister of transport, said that safety in the streets had been a matter of anxiety to him. In 1926, street accidents in the metropolitan area were responsible for the death of 1,020 people (a record number), and for injuring 47,213. There were some redeeming features in this otherwise alarming outlook. During the last three years, approximately, the number of accidents had not increased more than the increase in traffic. Again, though it was true, unfortunately, that the number of fatalities and injuries to children was increasing, yet every year since 1920 the percentage of children maimed and killed had been decreasing in proportion to the total number of casualties. Children were becoming accustomed to the new means of transport. This amelioration was due to the enlightened action of the London County Council and other educational authorities and the Safety First Association. If possible, more would be done to impress on children the grave dangers they must meet in the streets, especially if they were used as playgrounds.

An Australian Diploma in Tropical Medicine

A large part of northern Australia is tropical, as is British New Guinea, which is mandated to the commonwealth. Hence the importance of tropical diseases to physicians practicing in those parts. They have heretofore looked to England as the least inaccessible school open to them for the study of tropical medicine, but have been debarred in many cases by considerations of time and expense from seeking the diplomas there obtainable. To meet their requirements in a more convenient manner, an Australian Diploma in Tropical Medicine has been established. The course, which lasts for three months, is held at the Australian Institute of Tropical Medicine at Townsville. Then a twelve days' examination takes place, and successful candidates receive a certificate. A higher grade examination follows for the diploma (D.T.M.), which is granted by the Universities of Melbourne, Sydney

and Adelaide. Candidates must be qualified physicians registered in a state or in the commonwealth. A period of not less than twelve months must have elapsed since the date of their qualification. They must have passed part one of the examination for the D:P.H. of their university, or, alternatively, must have pursued a prescribed preliminary course of laboratory instruction of at least one month's duration. Recently during the first course of training at Townsville the whole class suffered from dengue fever, but this prevented only one student from obtaining the certificate.

Courage in War

At the Medical Society of St. Mary's Hospital, Dr. C. M. Wilson, dean of the school, opened an interesting discussion on courage, which contained much of great interest to the army physician who has to deal with nervous breakdown under the stress of war. Dr. Wilson spoke of the change in the type of man in the trenches as the war dragged on; the regulars of the first winter, a careless, fearless, light-hearted crew, who would get out of their trenches for some trivial purpose when the Germans were only 200 yards away, and were often hit in this way; then the great mass of volunteers, varying in quality; and lastly, the unwilling conscript. Courage which had been common—the rule—became generally uncommon—the exception. There was a limit to the number of brave men any nation could turn out. The morale of all armies broke at last. Fear was an instinct that did not change. It was the same now as in ancient times, but courage, the idea greater than fear, was always changing. Courage was the control of fear. There was no courage without an alternative. Was imagination, which was the secret of success in peace, a handicap in war? At first sight it seemed to handicap a man. Men did not wish to picture the future; it was the worst thing they could do. Their business, if they wished to last, was to give up thinking at all. The wise man lived only for the hour. And yet as the war proceeded Dr. Wilson discovered that the shining successes of the trenches were among imaginative men. It gave them perspective; they saw the thing whole; they understood on what terms life is worth living. He had sought for an explanation of this apparent contradiction in an analysis of men in the trenches.

There were four types or degrees of courage: (1) the man who did not feel fear; (2) the man who felt fear but did not show it; (3) the man who felt fear, showed it, but did his job; (4) the man who felt fear, showed it and shirked. The drama of war lay in men's attempts to lift themselves from one group to another. Most men were to be found in group 3. Sometimes group 4 would loom up, and in an effort to escape the man suddenly found himself for a time in group 2. Did group 1 exist at all, was there any one who did not feel fear? In the history of war, the man who apparently did not feel fear had dominated the battles in English history. He was a crude, healthy animal with little imagination. "If these English had any apprehension, they would run away." His mental processes were sluggish. But in this war among officers he was almost extinct, and even among the men he was a vanishing type. The change was due to education and the industrial age. The yokel was vanishing from the countryside; it followed that the unthinking yokel soldier was vanishing from armies. He was being replaced by a type whose courage was a thought-out thing. So as the war went on men came to think less of the gaudy act, the impulsive deed, and more of the quality that made men remain deliberately and in cold blood in the trenches when they could have got out of the whole business without any great loss in prestige.

It had been debated whether shell shock was not an accident that might happen to any one so unfortunate as to be in a certain place at a certain time; that it was largely chance—the chance of time and place. If this was so, war was a lottery, and those who drew blanks were branded as cowards. But it was not so. War, when it had done its worst, could not make cowards out of sound stock. When a man failed there was something in his stock that made him unable or unwilling to behave unselfishly. To that statement there was one exception—what had come to be called commotional shock as distinguished from emotional shock. In these cases the history was always the same: a shell had burst near a man; it was physical hurt to his brain. But apart from that exception—and it was a rare event—the statement held. Fatalism was the only frame of mind if a man wished to last, and anything that threatened that fatalistic outlook threatened personal defeat. If a man began to think of coming through, he was soon in trouble. Dr. Wilson spoke of the first signs of trouble brewing. How were men wearing? The answer to that question was the only interesting thing in modern war. To find that answer was the real job of a physician with a battalion. We could say in peace time how a man would shape in war. War had no power to transform, it merely exaggerated the good and bad in us. If you really knew a man in peace you knew him in war, could say what he would do in war. It was conscience that dictated man's acts in peace as in war. War was the final test of conscience.

The Nomenclature of Teeth

The British Society for the Study of Orthodontics appointed a committee to consider the present systems of nomenclature. The report would sanction a large number of terms, with alternatives in a few cases. The term "cervix" of a tooth is adopted, with "neck" as an alternative; but the terms "fang" and "prong" are rejected for "root" and "apex." The committee had difficulty in defining the orthodontic term "vault." The definition ultimately adopted was "the longest palatal border obtainable through a coronal section of a maxilla," and the term "transpalatine arch" was rejected. Much trouble was taken over the definition of "occlusion." Ideal occlusion was defined as a hypothetic standard of occlusion based on the morphology of the teeth, and normal occlusion as that occlusion which was within the standard deviations. "Inclination," defined as "the rotation of a tooth around any transverse axis," was preferred to the continental term "version." In regard to treatment, a good "anchorage" was defined as the point of attachment at which the force of reaction produces little or no movement. Mr. George Northcroft, a member of the committee, who had had the opportunity of discussing nomenclature with American orthodonists at the recent conference in New York, had difficulty in persuading the Americans that there was no such thing as reciprocal anchorage. He pointed out that if the U. S. ship *Minnesota* was anchored to the earth, the earth might stabilize the *Minnesota,* but the *Minnesota* would not stabilize the earth. The Americans, however, remained unconvinced and in respect to appliances and treatment the British and American nomenclatures have to differ. One American orthodontist objected to the term "cheek teeth" (all teeth posterior to the canines), but Mr. Northcroft pointed out to him that it was a term used by the American anthropologist W. K. Gregory and had come into general use. The alternative term, "teeth of molar series," is, however, to be permitted, but not the term "back teeth." To his surprise the Americans accepted the term "premolar," although in former discussions they had insisted on the term "bicuspid," but with regard to occlusion they rejected the British term "normal," "prenormal" and "postnormal," favoring instead "neutrocclusion," "distocclusion," and "mesiocclusion." They abandoned "gression" and "trusion" in favor of "displacement" as meaning malposition of the crown and root of an individual tooth to an equal degree and in the same direction.

PARIS

(From Our Regular Correspondent)

April 13, 1927.

The Peculiar Effect of Ultraviolet Rays on the Cutaneous Reaction to Tuberculin

M. Carnot and his collaborators have made a strange discovery. When a skin reaction or an intradermal reaction to tuberculin is applied to a known tuberculous person and the region is afterward exposed to ultraviolet rays, no reaction is produced. It is not a question of an alteration of the tuberculin, for tuberculin remains intact after a prolonged exposure to ultraviolet rays. The failure to react would appear to be due to a modification of the physiology of the skin, which, after the use of ultraviolet rays, loses its power of reaction. The effect produced is the same if the irradiation has preceded the introduction of the tuberculin.

The Hereditary Transmission of Cancer

M. Auvray has reported a peculiar instance of the occurrence of cancer in the same family in four successive generations, the form of the disease being almost the same in each case. In the first generation, a woman succumbed to a uterine cancer at the age of 89. Her daughter had a similar cancer at the age of 69. The granddaughter developed a cancer at the age of 62, and *her* son had a cancer of the rectum at the age of 64. This report of cases is especially interesting owing to the fact that the four patients lived separately. It will be noted, also, that in each succeeding generation the cancer developed at an earlier age. M. Auvray has observed several instances of such repetition of cancer of the uterus, the ovaries and the rectum in the same families, and submits this documentary evidence toward the inquiry, which is still open, on the obscure etiology of epitheliomas.

Glossoptosis

M. Pierre Robin has, for a number of years, called attention to the frequency of glossoptosis in children and has pointed out the harmful effects. Glossoptosis consists in the retraction of the mass of the tongue and of its falling toward the nasopharynx, where it narrows the passage and makes the admission of air more difficult. Children thus affected all breathe through the mouth in order to get more air. They commonly present an adenoid facies, even though adenoid growths and hypertrophied tonsils are absent. Their physical and mental development are retarded. They have a narrow thorax, are anemic owing to anoxemia, and their growth is retarded. Their intelligence is diminished or develops but slowly. Glossoptosis coincides always with defective development of the lower jaw due to posterior hyperarticulation, so that the lower incisors, instead of coinciding normally with the upper incisors, have a position too far posterior to them. This condition is usually of congenital origin, and is in relation to all the ailments that cause disturbances in the development of the osseous system: syphilis, hereditary alcoholism, rickets, endocrine disorders. The treatment is simple. An infant is nursed with the thorax upright, and the child is taught to project the chin forward with each suction movement. If the diagnosis is not made until late, a small dental appliance is affixed, which pushes forward the lower jaw and brings the cutting surfaces of the two dental arches into normal occlusion.

Vaccination in Poradenitis

Professor Delbert has reported to the Academy of Medicine two new cases in which his method of vaccination has been successfully employed. The method is an application of the procedure that was used by Pasteur in developing his antirabic vaccine. The pathogenic agent of poradenitis being unknown, an autovaccine cannot be employed. M. Delbet, without touching the iliac glands, which are always involved, removes the inguinal glands, desiccates them in the presence of calcium chloride, and heats them over the water-bath at a temperature of 37 C. (98.6 F.) for from two to four days. He grinds them and injects into the patient in fractioned doses the pulp thus obtained. The reactions are mild and the therapeutic effect is rapid. The two new cases reported show the effectiveness of the method. In one case, the inguinal glandular mass was adherent or fluctuant in places; but there was no fistula as yet. The operative wounds healed by first intention. The iliac glands, which had not diminished after the operation, completely disappeared and were no longer perceptible, eleven days after the operation. In the last case, the lesions were bilateral with several fistulas. The patient had been treated, during four mouths, in another hospital by various dressings and by ultraviolet rays, without any improvement. The inguinal glands alone were removed. The operative wounds broke open completely and suppurated abundantly when the treatment was begun. With the first injections the suppuration ceased and a fistula located above the crural arch and leading to the iliac fossa closed. The inguinal wounds scarred over and the iliac glands disappeared sixteen days after the first injection. No other form of treatment would have produced a like result.

The Treatment of Foreigners in the Hospitals

The annual cost of hospital treatment of foreigners represents a burden of twelve million francs ($480,000) for the taxpayers of Paris. M. Ambroise Rendu declares that the council could not shy away from a duty to humanity by refusing foreign patients admission to municipal hospitals, but suggests that the expense incurred be charged to their governments and not to the population of Paris. Since several nations have concluded international reciprocity agreements with France on the subject (which are burdensome, moreover, for the reason that no country has as many Frenchmen as there are representatives of that nation in France), those treaties must be respected. Other countries should pay for their own nationals. The question arises not only in Paris but in other cities as well, notably Marseilles, where almost half of the hospital beds are occupied by Italians.

NETHERLANDS

(From Our Regular Correspondent)

April 4, 1927.

Trachoma

Dr. Josephus Jitta, president of the superior council on hygiene, has presented to the health section of the League of Nations an account of the history of trachoma in the Netherlands. Authentic history of the disease begins about 1860, but trachoma seems to have been brought to Amsterdam in the eighteenth century by Polish Jews. The first attempts to combat the disease were made in 1880, when an ophthalmologic polyclinic was established. In the schools attended by Jewish children there was a startling number of patients. A total of 13,282 children was examined, of whom 10,549 were non-Jewish, with ninety-one, or 0.8 per cent, affected with trachoma, and 2,733 Jewish children, with 1,127, or 45 per cent, suffering from the disease.

Statistics collected from 1897 to 1901 showed that the incidence had dropped in some schools from 35.5 per cent in 1880 to 16.7 per cent in 1897 and to 7.8 per cent in 1901, without any particular change in the character of the pupils, otherwise, having occurred. A commission appointed in 1913 published the results of the inquiry of Drs. Wibaut and Smit. The disease is found almost exclusively where poverty and squalor abound. From the prophylactic standpoint, it is feasible: (1) to endeavor to discover cases in the early

stages; (2) to exercise complete supervision during treatment, and (3) to cure by compulsory treatment practically all cases of trachoma in children before their vision shall have become impaired. The decline in the incidence of trachoma has continued down through 1924 and 1925. In 1925, only from sixteen to eighteen new cases were found.

The Proposed Law Pertaining to Serums and Vaccines

In a previous letter (The Journal, April 23, p. 1337), reference was made to the proposed law pertaining to serums and vaccines. This law will be entirely distinct from that regulating the practice of pharmacy. The principal provisions are contained in ten sections. The preparation of serums and vaccines to be used on man is prohibited without written authorization of the minister charged with the application of the law. Such authorization cannot be refused except for reasons affecting the public health, which must be specified in the refusal. Authorization though granted may be revoked—but only for reasons of public health.

An administrative order will determine the regulations pertaining to the preparation, the quality, the conservation, the transportation, the delivery and the supervision of serums and vaccines. A special order may prohibit, or subject to particular conditions, importations of these products. The expenditures necessitated by the examination and supervision of such products, as set forth in the regulations, will be borne by the manufacturers, dealers or importers. The law is not applicable to autovaccines.

In case of emergency, dispensation from the obligations established by the provisions of the law may be granted by ministerial decree. Penalties are provided for infraction of the various sections of the law.

The bill as at first drafted contained also provisions concerning "other medicinal products." The minister thinks that these would better be included in a revision of the law pertaining to pharmacy in general. In some other respects as well the present bill differs from the preceding: the authorization is accorded by the minister; regulations may be established with regard to the delivery (which may consequently be reserved exclusively to the pharmacists and the manufacturers); autovaccines are excluded from the application of the law.

Cremation

In 1926, the crematory at Velsen was utilized for 318 incinerations, as compared with 262 in 1925.

A Franco-Netherlandic Committee on Science

A Franco-Netherlandic Committee on Science has just been formed which will function as a branch of the Centre d'études franco-hollandaises, the seat of which is in Paris. The object of the committee is to strengthen scientific relations between the two countries; more particularly, in the fields of mathematics, polytechnics, biology and medicine.

Pharmacy and Charlatanism

A campaign launched in Germany against exaggerated claims made for the products of pharmacists has found an echo in the Netherlands. In order to suppress such outcroppings, which lead to charlatanism and even to the illegal practice of medicine, government regulation or supervision by medical corporations is demanded.

Vaccination in Java

At the fourth Congress of Natural Sciences of the Dutch East Indies, Dr. Winckel, public health officer in Java, discussed the question of smallpox and smallpox vaccination. The public health service provides a corps of vaccinators and of assistant vaccinators, who are under the constant control of health officers. The vaccination and revaccination service is thoroughly organized. Notification of all cases of smallpox is required and isolation of smallpox patients is enforced. The system was first inaugurated in 1856 and has continued to develop since that time. A few figures will illustrate the mode of functioning of the services. The total number of inhabitants served is ten million, and the present report covers the period from 1911 to 1926. In 1919, 4,000 cases of smallpox were observed, which resulted in 925 deaths. In 1925 there were thirty-eight cases with no deaths, and during the first eight months of 1926 there were only fifteen cases.

GENEVA

(From Our Regular Correspondent)

March 11, 1927.

Laws Applying to Serums and Vaccines

For several years the federal government has deemed it necessary to formulate laws controlling the sale and manufacture of serums and vaccines, and it has now drawn up regulations, which are to be submitted for approval and criticism of the Swiss medical profession. The various articles are as follows:

1. By the term serum or vaccine is meant serums and vaccines employed for diagnosis, prevention and treatment of diseases of man.

2. The manufacture and importation with the intent of sale, as well as the sale of serums and vaccines, shall be submitted to official control exercised by the federal service of public hygiene according to the following provisions.

3. Private individuals and commercial houses who intend to manufacture, import and sell serums and vaccines must obtain permission from the competent cantonal authority. Physicians and public pharmacies nevertheless may obtain and deliver serums and vaccines for which they have need in the exercise of their profession without any special authorization.

4. The permission provided for in article 3 can be accorded only to individuals and commercial houses offering all the necessary guaranty in respect of manufacture and care of serums and vaccines and possessing appropriate plants for such purpose.

5. Serums and vaccines can be imported (from foreign countries) only by specially designated customs offices. Such importation cannot be made in quantities less than 500 cubic centimeters. Nevertheless, physicians and hospitals may import any quantity of serums and vaccines they may require for the treatment of their patients. The federal department of the interior may, on a justified request, authorize other derogations in respect of the first sentence of this article.

6. Every importation of serum must be reported by the customs office to the federal service of public hygiene. For this, an accompanying bulletin must be attached to each bill of lading. This bulletin, which is a formulary delivered by the federal service of public hygiene, is delivered to the exporter by the importer to be filled by the former and sent with the bill of lading. After the customs formalities are complete, the bulletin in question is forwarded by the customs to the federal service of public hygiene, which, in turn, notifies the authorities of the canton in which the product is to be used.

7. The technical control of serums is confided to the federal service of public hygiene.

8. Only serums and vaccines controlled by this service may be sold. The control is carried out following the generally recognized scientific methods, and any changes in these methods will be communicated by the service on the request of any one interested.

9. For this control, samples of all serums and vaccines manufactured in Switzerland or imported must be submitted

to the federal service. These samples must be sufficient in quantity to make possible a thorough analysis and must be removed in the presence of an official appointed by the competent cantonal authority. The packages containing the serum or vaccine from which the samples have been taken are then sealed until the federal service of public hygiene has made known its results.

10. Serums and vaccines controlled by the federal service and found to comply with the requirements stipulated in the annexed list are given a control number, which must be attached to all packages put on sale.

11. Serums and vaccines controlled by the federal service and found suspicious are to be seized and destroyed, unless it may be possible to do away with the causes that justified the decision of control.

12. The federal service of public hygiene levies, for the control of serums and vaccines, fees which are fixed by special tariff.

13. Serums and vaccines put on sale must bear a label exactly defining their nature. Must be indicated: (1) the name of the manufacturer or the importer; (2) a number corresponding to each amount imported or made in Switzerland; (3) the date after which the serum or vaccine is not to be employed; (4) the nature of the product, and if necessary, the directions for its use; (5) as far as possible, an indication of the tenor of the product in specific substances.

14. The inspection of individuals and commercial houses manufacturing and selling serums and vaccines is to be exercised by the competent cantonal authority. For this end periodic inspection of plants and implements used for the manufacture, storage and sale of these products, and the state of health of animals used for the production of serum, as well as measures taken for preventing any contamination during manufacture and any propagation of transmissible diseases, is to be made. If necessary, the authorities may take samples of stocks of serum and vaccines from the manufacturers for new examination by the federal service of public hygiene, but no fee is charged for this examination. When necessary, these inspections may be carried out in collaboration with the federal service.

The following are the conditions which must be fulfilled for serums and vaccines:

Serums must fulfill the following requirements: 1. They must have no injurious properties; consequently they (*a*) must be absolutely sterile; (*b*) must not contain any injurious toxin; (*c*) must not show any apparent deposit; (*d*) must not contain injurious quantities of preservative agents (not more than 0.5 per cent for phenol and 0.4 per cent for tricresol); (*e*) must not contain over 12 per cent albumin. 2. Specific serums of which experience has shown that their activity can be controlled by exact methods should have a determined strength, fixed by the authorities.

By vaccine is understood all preparations containing virulent, attenuated or dead bacterial cultures, as well as filtrates and sterile extracts of pathogenic bacteria, used as preventive or curative inoculations or for the diagnosis of certain diseases. 1. Vaccines composed of virulent or attenuated cultures must contain only the specific bacterium from which they derive their name; smallpox vaccine must be prepared according to the Swiss pharmacopeia. 2. Filtrates and sterile extracts must not contain any bacterium whatever.

School Physicians

The authorities of the schools of Winterthur, including teachers, were recently asked to attend lectures by Drs. Kraft (Zurich) and Lauener (Berne) on the functions of public school physicians. Dr. Kraft presented a report on the work of public school physicians at Zurich, on the organization of this service, which he directs, and pointed out the necessity of following at the schools both the intellectual and the physical development of the child. A good school service is possible only with an all-time physician supplied with the necessary personnel.

In his report, Dr. Lauener described the functions of the school physician at Berne, who has 10,000 children to look after. According to English physicians occupied with social hygiene, an all-time physician is necessary although a physician in private practice can deal with 3,000 children. The school physician at Berne has under his orders an orderly and a nurse (for the care of the pupils' skin and scalp) and also a secretary. There are five specialists who give consultations in their respective branches, and every child is given a complete examination in the first, fifth and last school year. This service costs 50,000 francs ($10,000) annually, otherwise 50 centimes (10 cents) per person of the population of Berne, and three francs (60 cents) per child.

JAPAN

(From Our Regular Correspondent)

April 15, 1927.

The Late Emperor and Injection

It has been believed in this country that the slightest injury to the body of a man is disrespectful to his parents. This ancient belief is passing as a modern era dawns and as medical science advances. Conservative persons, however, refuse injections even in the shadow of death. Many of them also contend that one injection, though it may relieve a temporary pain, will shorten life. This belief was probably based on the teaching of Confucius that to keep the body clean and uninjured is the first step to filial piety. The teachings of Confucius were imported into Japan early in her history and form the basis of Japanese moral standards. To injure the body of the emperor, therefore, in the past has been unthinkable. But, displaying unusual discretion in directing the affairs of the imperial family during the illness of the late emperor, the empress dowager issued orders that any step known to modern medical science might be taken in treating him. The use of injections in treating an emperor thus were permitted probably for the first time in Japan.

Nurses go to America to Study

Two able nurses, Misses W. Yamamoto and F. Tsukagoshi, were chosen out of many by the Rockefeller Foundation to be sent to study in America. It is said that they will study chiefly public hygiene.

Educational Toys

The Department of Education has long been troubled by the fact that there are too many kinds of children's toys, some of which are too luxurious, and only a few of which are educational. A meeting was recently held to talk over this problem. Prominent professors of infant education and kindergarten managers were present. Hereafter this meeting will be held semiofficially, and besides the educators and officials, specialists in children's diseases, toy manufacturers, and wholesale dealers will attend.

The Movement for Abolition of Licensed Prostitution

A bill looking toward abolition of licensed prostitution was introduced in the fifty-second session of the imperial diet, just closed. The bill proposed gradual elimination by forbidding the present brothel keepers to increase the existing number of prostitutes in their employ, and to forbid any one to become a prostitute or to open a new brothel. The bill was rejected on the ground that the problem required more thoroughgoing investigation. For the last ten years the movement for abolition of prostitution, although persistently maintained, has accomplished little. This is chiefly because some people hold that the abolition of this system, however

desirable in itself, would only result in encouragement of unlicensed prostitution, which, because of the greater difficulty of control, would be attended with greater evil effects. The movement against licensed prostitution is nevertheless growing in influence. Certain brothel keepers voluntarily started the movement for abolition of the licensed quarters. Most of the prostitutes are little educated or utterly uneducated. This is one of the greatest obstacles in the way of abolishing prostitution and in protecting the public from venereal disease. Of 5,000 prostitutes in Tokyo 40 per cent are illiterate, 20 per cent have completed the first one or two years of elementary school, 20 per cent have finished the elementary school course, about 6 per cent have finished the first two or three years of the higher girls' schools, and the remaining 4 per cent claim to have gone through the higher girls' schools and even to have had a partial college education. The total number of prostitutes registered in this country at present is 52,256. Taken with the age in view the figures are as follows:

From 18 to 20 years	9,253
From 20 to 25 years	28,673
From 25 to 30 years	11,215
From 30 to 35 years	2,342
From 35 to 40 years	565
Above 40 years	208

Progress Against Venereal Disease

Dr. Dohi, chief of the venereal disease prevention association of Japan, has donated a large sum to the venereal disease consultation office which is to be established in the lower quarters in Tokyo. In Kyoto the Syphilology Society of Japan has been organized by several professors of the Kyoto Imperial University Medical College. The object is to encourage investigation and to afford treatment with the help of practitioners in general.

Improvement of Regulations for Workers' Aid

Improvement of regulations for the aid of factory workers, miners, mariners, children, the poor and the unemployed will be the aim of the social bureau of the home office. This new enterprise includes establishment of health insurance for sailors, and erection of model sanitary dwellings in rural and fishing communities similar to those in the large cities. Work in child delinquency also will be carried on.

Pleuritis in Japanese Navy

The following statistical observations based on material collected during the last thirteen years were made by S. Sugawara, fleet surgeon, at the conference of chief surgeons of naval stations, held March 1-3. On the whole, 6 per cent of patients with pleuritis recovered enough to resume their duties. An average of 1 or 2 per cent were discharged from the service because of this disease. More cases were found in late spring and early summer, fewer in October, and the fewest in November and December. Among the sailors on shore duty, however, more cases occurred in July and August. One per cent had tuberculous blood relations. In 14 per cent the history indicated some closer connection with the disease. In 52.3 per cent the disease affected the right side, 35.5 per cent the left, and 12.2 per cent both sides. In 1 per cent there were sequelae, mostly tuberculosis.

A Chair of Public Hygiene

Dr. K. Miyajima has announced that the Rockefeller Foundation will donate funds for the establishment of a new chair of public hygiene in the Keio Medical College. It is reported that the committee on inspection of the Rockefeller Foundation which visited Japan last year noticed that Japanese universities did not generally give as much instruction in this subject as is desirable.

VIENNA

(From Our Regular Correspondent)

March 8, 1927.

The So-Called Pyelovenous Reflux

Dr. F. Fuchs thinks that septic material may enter the blood stream by pyelovenous reflux. The mechanism is as follows: The fluid gains entrance through the rupture of the fornix calycis. It then penetrates the fissure in the tissues through which the intralobular vein runs, forms about it an enveloping body, and causes the many thin-walled small veins that empty into the enveloped vein to break off. Thus the infectious material gains entrance to the blood stream. We may therefore speak of an acute "reflux" infection or, similarly, of a chronic "stasis" infection.

Death of Prof. Dr. Michael Grossmann

With the passing of the laryngologist Dr. Michael Grossmann, the medical faculty of Vienna loses one of the best known and most worthy representatives of the Vienna school. Born in 1848, in a small Hungarian city, he came to Vienna at an early age and devoted himself, from the beginning of his studies, to laryngology as a pupil of Schrötter, becoming, at the same time, a good surgeon under Billroth's tuition. He later took up research work in laryngology. His studies on the distribution of the nerves of the larynx, the physiology and pathology of the upper respiratory organs, the function of the vagus as a depressor of heart activity, the volume of the expanded lungs, dyspnea, blood pressure in the lungs, and edema of the lungs, have been of fundamental importance in the advancement of therapeutics.

The Seventieth Birthday of Professor Wagner-Jauregg

Professor Wagner-Jauregg, head of the psychiatric clinic in Vienna, celebrated recently his seventieth birthday. He is possessed of a highly critical mind; he takes a skeptical attitude toward all innovations until their value has been unequivocally demonstrated. Thus he is opposed to psychanalysis, and toward the widespread spiritist movement he takes an absolutely inimical attitude. He is, however, one of the most original and most prolific thinkers in the Vienna school. His articles on the gastro-intestinal etiology of amentia, delirium tremens, the war neuroses and the pathology of neuritis have awakened great interest. His name is connected particularly with two modern investigations: (1) researches on endemic goiter, myxedema and cretinism, together with their elimination by means of goiter prophylaxis with iodized sodium chloride, and (2) fever (malaria) treatment of general paralysis. As early as 1887, he proposed the artificial production of fevers as a mode of treatment in mental diseases. The medicolegal importance of psychiatry is strongly emphasized by Wagner-Jauregg; he is, however, engaged in a bitter controversy with the juristic authorities. It is entirely in keeping with his attitude as critic that he has founded "a school," which, as an exponent of "conservative psychiatry," is opposed by the younger elements.

The Diseased Heart and Its Prophylaxis

As one of a course of popular, scientific lectures organized by the Wiener Volksbildungsverein, Prof. Dr. Wenckebach recently delivered an address on "The Diseased Heart," the object of which was to impress on his hearers the necessity of prophylaxis against disease of the circulatory organs. Wenckebach emphasized that many more persons die of heart and vascular affections than from any other disease. Of fifty industrial workmen at least one has heart disease. More than 2 per cent of candidates for life insurance, and 4 per cent of the young soldiers have heart disease. The most severe heart diseases usually appear within the first fifteen years of life. The heart diseases of advanced age begin to

manifest themselves after the forty-fifth year—namely, the sclerotic and syphilitic vascular diseases—and bring about the death of the older age-groups, either suddenly or after illnesses of varying length. The countless cardiac patients and invalids constitute an immense loss to the state. The early deaths represent a loss of capital. On the other hand, large sums of money are required to provide care for the incapacitated. Professor Wenckebach is now launching a fight against heart disease similar to the fight he has waged for many years against malaria, tuberculosis and syphilis.

The Crusade Against "Patent Medicines"

In Austria, the custom of using "patent medicines," so widespread in other countries, has not been, up to the present time, much in vogue, because only such medicaments could be put on the market as were approved by the public health bureau. During recent years, however, a number of foreign preparations have been introduced, on the recommendation of physicians, to be sure, and have been extensively advertised. In some instances, even forged medical testimonials were published in advertisements as evidence of the worth of such preparations. At one of the recent meetings of the Gesellschaft der Aerzte, Professor Wasitzky, the head of the pharmacologic and pharmacognostic institute at the University of Vienna, took a strong stand against the evil and censured the practice of reputable physicians allowing their names to be used for more or less deceptive testimonials. As a result, it was decided to establish an investigation committee to inquire into the claims, composition and effects of the newer preparations and to publish, from time to time, the results, in order that the physicians and the general public might have some basis on which to judge them.

Organization of Blood Donors

The municipal government of Vienna is planning to effect an organization of blood donors, in order that, in case of emergency, a list of donors may be available. All workmen in Vienna who are employed in industrial plants are to be examined to determine to which blood group they belong and the information will be catalogued. Every plant will have its own separate catalogue, and a duplicate will be kept for reference at the municipal bureau of health. Every workman will be supplied with a card showing the group to which he belongs, and Professor Tandler has proposed that the indication of the blood group be tattooed on the upper arm, so that a permanent record may be readily available. Specially trained physicians will examine the workmen in each plant. A separate list of voluntary donors will be kept at the bureau of health, together with their addresses and occupations. In case of accidents, it is planned, when possible, to take to the hospital an appropriate donor in the vehicle that transports the injured subject, or to have one provided in the hospital, in order that no time may be lost, in case blood transfusion should prove necessary. The whole expense of the organization will be borne by the municipality of Vienna.

Marriages

WILLIAM S. MACLAREN, Princeton, N. J., to Mrs. Susan Morrell Camp of Hartford, Conn., April 13.

CLARENCE A. NEYMANN, Chicago, to Miss Virginia Elizabeth Hall, of St. Petersburg, Fla., May 7.

VINCENT A. PETERS, Kansas City, Kan., to Miss Florence Rock of Williamsburg, Iowa, recently.

CHARLES PERRY HOWZE, Danville, Va., to Miss Hannah Morris Keith of Fairfax, March 19.

SAMUEL EDWIN HUGHES, JR., Danville, Va., to Miss Sarah Hall of Onancock, March 19.

Deaths

John Goodrich Clark ✠ Philadelphia, since 1899 professor of gynecology, University of Pennsylvania School of Medicine, died May 4, of cerebral hemorrhage, aged 59. Dr. Clark was born in Indiana and following graduation at the University of Pennsylvania School of Medicine in 1891, served at the Children's and St. Agnes' hospitals, Philadelphia, the Bellevue Hospital, New York, and later as instructor at Johns Hopkins Hospital, Baltimore. He then went abroad to study gynecology in Vienna, Berlin and other European cities. Dr. Clark was past president of the American Gynecological Society, the Congress of Clinical Surgeons of North America and the Medical Club of Philadelphia, and was chairman of the Section on Obstetrics and Diseases of Women of the American Medical Association, 1909-1910. During the World War, Dr. Clark was a member of the Medical Committee of the Council of National Defense; he was a member of the American Radium Society, the Southern Surgical Association, and was gynecologist in chief at the University Hospital.

Samuel Bruce Buckmaster, Delavan, Wis.; University of Virginia Department of Medicine, Charlottesville, 1879; formerly professor of physiology, College of Physicians and Surgeons, Chicago; at one time superintendent of the Hudson (Wis.) Sanatorium; past president of the Rock County Medical Society; for fifteen years president of the board of education of Janesville, and for ten years health officer; aged 73; died, April 16, at the Mercy Hospital, Janesville, of acute myocarditis.

Isham Green Harris ✠ Brooklyn; Medical Department of the University of the City of New York, 1890; member of the American Psychiatric Association and the Association for Research in Nervous and Mental Diseases; associate clinical professor of mental diseases, Long Island College Hospital; medical superintendent of the Brooklyn State Hospital since 1916; medical director of the Bureau of Deportation of the State Hospital System of New York; aged 60; died, April 21.

Charles L. Edmundson, Bisbee, Ariz.; University of Colorado School of Medicine, 1891; member of the Arizona State Medical Association; formerly city and county health officer, mayor of Bisbee and member of the board of education; on the staff of the Calumet and Arizona Hospital, where he died, April 15, of uremia, aged 65.

Herbert Cerda De Vilarrestau Cornwell ✠ New York; Medical School of Harvard University, Boston, 1900; member of the American Psychiatric Association; formerly on the staff of the Roosevelt Hospital; served during the World War; aged 52; died, April 25, of nephritis, at his home in Scardale.

William Forest Holland, Santa Anna, Texas; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1897; member of the State Medical Association of Texas; member of the Texas state board of health; aged 56; died, February 3, at the King's Daughters' Hospital, Temple, of myocarditis.

Frederick S. Kaufman, Lebanon, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1891; member of the Medical Society of the State of Pennsylvania; aged 58; died, March 28, at the Good Samaritan Hospital, following an operation for ruptured duodenal ulcer.

Stephen Vincent Mountain ✠ Olean, N. Y.; University of Buffalo Department of Medicine, 1904; donor of the Physicians' Home at Canadea in honor of his father; part owner of a clinic bearing his name; aged 45; died, May 1, of a gunshot wound, presumably self-inflicted.

Fred Aeberli ✠ Cleveland; Cleveland Homeopathic Medical College, 1905; formerly instructor in anatomy at his alma mater; on the staff of the Glenville Hospital; aged 49; died, March 12, of injuries received in a fall.

Clifton Lender Patterson ✠ Dayton, Ohio; Starling Medical College, Columbus, 1893; formerly health officer of Dayton; on the staff of St. Elizabeth's Hospital; aged 60; died suddenly, April 20, of heart disease.

Herbert H. Baldwin, Joliet, Ill.; Chicago Medical College, 1883; aged 69; died, April 16, at the Silver Cross Hospital, of suppression of urine following a cystostomy necessitated by carcinoma of the prostate.

J. D. Bailey, Summertown, Ga.; University of Georgia Medical Department, 1902; member of the Medical Association of Georgia; aged 55; died, April 17, at a hospital in Savannah, of nephritis.

William Leonard Welsh, Fairbury, Neb.; Kansas Medical College, Topeka, 1897; served during the World War; on the staff of the Taylor Hospital; aged 54; died, April 20, of cerebral hemorrhage.

Arthur Henri Broche, Oshkosh, Wis.; Milwaukee Medical College, 1896; member of the State Medical Society of Wisconsin; health officer of Oshkosh; aged 51; died, April 11, of lobar pneumonia.

Herbert Jacob William Morgenthaler ✠ Brooklyn; Long Island College Hospital, Brooklyn, 1907; on the staff of the Brooklyn Hospital, where he died, April 21, aged 41, of Hodgkin's disease.

Edward Emory Tull, Salisbury, Md.; University of Maryland School of Medicine, Baltimore, 1887; for many years a practitioner in New York; aged 60; died suddenly, April 29, of heart disease.

Lucille A. James Tarbox, Norwich, Conn.; Boston University School of Medicine, 1897; aged 50; died recently, at the C. P. Huntington Memorial Hospital, Boston, of carcinoma of the stomach.

Emily Statella Fluesmieir Fairchild, Osawatomie, Kan.; Barnes Medical College, St. Louis, 1909; member of the Kansas Medical Society; aged 52; died, February 13, of aortic insufficiency.

Chalmers Deaderick, Knoxville, Tenn.; University of Pennsylvania School of Medicine, Philadelphia, 1871; member of the Tennessee State Medical Association; aged 79; died, April 14.

John Franklin Caldwell, Beecher City, Ill.; University of Tennessee College of Medicine, Memphis, 1890; aged 73; died, April 15, of endocarditis and articular rheumatism.

Julien W. Scott, South Pasadena, Calif.; Beaumont Hospital Medical College, St. Louis, 1888; formerly mayor of Venice, Ill.; aged 65; died, in April, of heart disease.

Edward Brinley Kellogg, Boston; Medical School of Maine, Portland, 1882; member of the Massachusetts Medical Society; aged 76; died, April 9, of arteriosclerosis.

William Elihu Baxter, Topsfield, Mass.; Bellevue Hospital Medical College, New York, 1887; served during the World War; aged 63; died, April 14, at St. Augustine, Fla.

Harry Paul Finck ✠ Boston; Medical School of Harvard University, Boston, 1918; member of New England Otological and Laryngological Society; aged 32; died in April.

Thomas F. Smith, Tacoma, Wash.; College of Physicians and Surgeons, Keokuk, Iowa, 1874; Civil War veteran; aged 79; died, April 6, of carcinoma of the liver.

Ellis L. Goodall, Pottsville, Pa.; George Washington University Medical School, Washington, D. C., 1897; aged 52; died, April 16, at Bennington, Vt., of pleurisy.

Robert A. McCall, Ennis, Texas; University of Louisville School of Medicine, 1883; member of the State Medical Association of Texas; aged 66; died, April 19.

James Clyde Elder, Chicago; Rush Medical College, Chicago, 1918; aged 45; died, April 17, at the Wesley Memorial Hospital, of glioma and cerebral hemorrhage.

Hanford Crafts Pattengill, Fairfield, Maine; Baltimore Medical College, 1906; assistant superintendent of the Central Maine Sanatorium; aged 49; died, March 14.

George B. Spencer, Carlisle, Ky.; Southwestern Homeopathic Medical College and Hospital, Louisville, 1896; aged 58; died, March 25, of chronic nephritis.

William Lovie Ludlow ✠ Kapowsin, Wash.; Medical Department of the University of the City of New York, 1893; aged 62; died, April 13, of diabetes mellitus.

Sylvester Carpenter Gearhart ✠ Blandburg, Pa.; Jefferson Medical College of Philadelphia, 1895; aged 59; died, March 18, at Curwensville, of endocarditis.

Joel Mathis Gooch, Temple, Texas; Medical Department of the Tulane University of Louisiana, New Orleans, 1883; aged 68; died, April 11, of angina pectoris.

Charles Bezanson, Oklahoma City; College of Physicians and Surgeons, Medical Department Kansas City University, Kansas City, 1895; aged 79; died, April 16.

John Cessna Banning, Belle Center, Ohio; Miami Medical College, Cincinnati, 1871; Civil War veteran; aged 81; died, March 24, of arteriosclerosis and nephritis.

Charles La Mont Miller, Middletown, Ohio; University of Cincinnati College of Medicine, Cincinnati, 1915; aged 35; died suddenly in April, of heart disease.

Bruce Fleetwood, Linton, Ind.; Kentucky School of Medicine, Louisville, 1901; secretary of the county board of health; aged 50; died, April 15, of paralysis.

Benjamin George Godfrey, Tacoma, Wash.; L.R.C.P., London, M.R.C.S., England, 1875, and L.R.C.P., Edinburgh, Scotland, 1876; aged 73; died, April 20.

Franklin E. Brady, Benton Harbor, Mich.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1901; aged 57; died, April 21, of angina pectoris.

Morris Jay Davies ✠ Utica, N. Y.; Medical Department of Columbia College, New York, 1890; aged 62; died, April 18, at St. Luke's Hospital, of uremia.

Fannie B. Margolin, Philadelphia; Woman's Medical College of Pennsylvania, Philadelphia, 1912; aged 59; drowned in the Delaware River, April 6.

Sven Jespersson ✠ Battle Creek, Mich.; University of Illinois College of Medicine, Chicago, 1913; aged 62; died, April 15, of acute pericarditis.

Benjamin Dean Bradfield, Logansport, Ind.; University of Michigan Medical School, Ann Arbor, 1877; aged 76; died, April 17, of heart disease.

Benjamin Fleming, Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1904; aged 56; died, April 25, of nephritis.

James Lafayette Fisher, Lancaster, Tenn. (licensed, Tennessee, 1889); aged 73; died, recently, at Nashville, of cerebral hemorrhage.

Clifford Allison Smalley ✠ Los Angeles; Medical College of Indiana, Indianapolis, 1904; aged 50; died in April, of angina pectoris.

Felix Coblens, Louisville, Ky.; University of Louisville School of Medicine, 1875; aged 76; died, April 15, of myocarditis.

James E. T. Oxley ✠ Harrisburg, Pa.; University of Edinburgh, Scotland, 1910; aged 42; died, March 13, of pneumonia.

William L. T. Grant, Muncie, Ind.; Hospital College of Medicine, Louisville, 1900; aged 52; died, April 18, of diphtheria.

Albert McCarthy Scully, New York; National University of Ireland, Dublin, 1880; aged 67; died, April 17, of arteriosclerosis.

Arthur Albert Boyer ✠ New York; Medical Department of Columbia College, New York, 1887; aged 65; died, March 11.

Theodore Denton Courson, Oak Ridge, N. J.; Bellevue Hospital Medical College, New York, 1880; aged 70; died, April 12.

E. Tillson Ward ✠ Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1886; aged 62; died, April 20.

James Luther Truax, Baltimore; Maryland Medical College, Baltimore, 1899; aged 55; died, April 22, of heart disease.

Robert E. Clark, Shelbyville, Ind.; Medical College of Ohio, Cincinnati, 1891; aged 73; died, April 19, of heart disease.

John W. Noland, Monon, Ind.; Kentucky School of Medicine, Louisville, 1882; aged 70; died, April 16, of heart disease.

Royal T. Farrand, Appleton, Wis.; University of Michigan Medical School, Ann Arbor, 1892; aged 58; died, March 28.

John Thomas Leahy, Boundbrook, N. J.; College of Physicians and Surgeons, Baltimore, 1908; aged 40; died, April 20.

Titus K. Jones, Radnor, Ohio; Columbus Medical College, 1883; aged 73; died, April 12, of cerebral hemorrhage.

Thomas H. Roberts, Churchville, Md.; Jefferson Medical College of Philadelphia, 1865; aged 86; died, April 5.

Matthew S. Williamson, Philadelphia; Hahnemann Medical College of Philadelphia, 1872; aged 75; died, April 9.

Walter DeCamp Hancock, Millville, Ohio; Miami Medical College, Cincinnati, 1872; aged 79; died, April 17.

Jessie Margaret Horton Koessler, Chicago; Rush Medical College, Chicago, 1904; aged 47; died recently.

Herbert M. Haley, Utica, Miss. (licensed, Mississippi, 1882); aged 74; died suddenly, April 12.

John H. Van Rensselaer, Syracuse, N. Y.; Albany Medical College, 1885; aged 66; died, April 24.

Correspondence

COINCIDENT DIPHTHERIA AND VINCENT'S ANGINA

To the Editor:—In THE JOURNAL, April 16, is a case report by Dr. R. S. Spray of diphtheria and Vincent's angina running concurrently.

To me the evidence is far from complete. Frequently there are cases of Vincent's infection in which the membrane closely simulates that in diphtheria. The fact that it cleared up following the administration of antitoxin is not conclusive; the improvement might have been coincidental, as cases of Vincent's angina with membrane formation sometimes improve without any specific treatment.

The presence of a positive culture of the diphtheria bacillus is not conclusive evidence. The strain might be a nonvirulent one. Dr. Spray states that a virulence test is going to be made. I might suggest here that, if he uses the Force-Beattie technic, the culture would not have to be purified to make the test. And even if the strain of the diphtheria bacilli is a virulent one the case might be one of Vincent's angina and coincidently a diphtheria carrier.

Likewise, as the spirochete and fusiform bacilli are frequently found without any clinical symptoms, this case might have been one of diphtheria in which the organisms that cause Vincent's angina were present.

Clinically, the case might be differentiated. The false membranes while similar are somewhat different, and the appearance of the mucous membrane adjacent to the false membrane is different.

The large numbers of spirochetes present would, of course, favor a Vincent's angina.

J. W. ROBINSON, M.D., Los Angeles.

To the Editor:—In THE JOURNAL, April 16, page 1234, Dr. R. S. Spray refers to a case in which he thinks both Vincent's angina and diphtheria were present. While this may be true, I think that the majority of the cases in which are found both the laboratory evidence of Vincent's angina and diphtheria are cases of Vincent's angina in patients who are diphtheria carriers. This has quite frequently happened under my observation.

There is no reason why a carrier of a virulent diphtheria germ may not have Vincent's angina and yet be immune to diphtheria.

The methods of detecting this condition are the Schick test, which in such a case should prove negative for diphtheria, and the fact that large doses of antitoxin have little effect on the course of the disease, but the disease will promptly respond to proper treatment for Vincent's angina.

F. W. SEARS, M.D., Syracuse, N. Y.
District State Health Officer.

VINCENT'S ANGINA

To the Editor:—Dr. Joseph Colt Bloodgood's timely article (THE JOURNAL, April 9, page 1142), so full of practical observations and suggestions, should stimulate more interest in oral lesions due to Vincent's angina. I agree with him that this disease is on the increase. It is my further observation that in the tonsillar type of the disease the young male adult is more frequently attacked. As laryngologist for the students' health service of the University of Texas, I find Vincent's angina of the tonsils becoming more frequent each year among the male students. This condition also obtains in my private practice, though to lesser extent. Children and elderly people appear to have tonsillar involvement with Vincent's angina much less frequently. Why in the tonsillar type of this disease is the young adult, particularly the male, more susceptible? In elderly persons, probably the fibrosed tonsil is not the type that harbors the organism of Vincent's angina and favors its growth. In children, the greater resistance to infection and the more sanitary condition of the mouth may be the explanation. This fact is illustrated in the difference between the reaction and rapidity of healing in children and adults after throat operations. Why men appear to be more susceptible to the tonsillar type of Vincent's angina is more difficult of explanation. That women are probably more careful of their mouth hygiene and do not yet use tobacco to the same extent as men has suggested itself as a possible explanation.

In the matter of treatment, my experience differs from that of Dr. Bloodgood. Since 1914 I have been treating Vincent's angina with local applications of 5 per cent arsphenamine in glycerin. All he says of the efficacy of sodium perborate I can repeat for arsphenamine. So specific is the action of the latter drug that I believe it is the routine treatment of Vincent's angina of most of the laryngologists of this country.

SAM N. KEY, M.D., Austin, Texas.

ULTRAVIOLET RAYS FOR FINGER PRINTING

To the Editor:—Having observed the rapidity with which the soluble silver salts become decolorized in the presence of organic fatty acids under the action of the middle chain of ultraviolet rays, I wondered whether or not it could be used as a rapid method of finger-printing. A practical demonstration was arranged before Major Kimberling and Sergeants Hoch and Cooper of the New Jersey Bureau of Identification, with remarkable results. Impressions were developed in ten seconds from all forms of paper, wearing apparel such as collars, shirts and cuffs, and, where the skin surface is smooth, directly from the human skin. Mothers' finger prints on infants were distinctly read and classified. Impressions developed on paper are permanent and cannot be erased, as with the powder-brush method.

M. A. AARONSON, M.D., Lakewood, N. J.

COMMISSIONS ON SHOES

To the Editor:—A letter addressed to physicians by the Custom Shoe Company, Chicago, describing the special shoes which this company prepares for foot deformities, says, "We will allow you 10% commission on shoes for any patients you send to us, which is the same as we allow hospitals and surgical houses." The next paragraph reads, "For recommendation as to our ability we refer to the following physicians: Dr. Jarros, Dr. E. Ryerson, Dr. Berg, Dr. Cameron, Dr. Weisenewski, Dr. Brown, Dr. Mueller, Dr. Rund, and many others with whom we have done business, and have helped them and benefited their patients." I know nothing about this firm except that it has succeeded to the business of C. Wegener, formerly at 189 West Madison Street. The use of my name is entirely without my permission, and I resent strongly this method of advertising. I disapprove entirely of the practice of giving commissions to physicians for work referred by them.

E. W. RYERSON, M.D., Chicago.

A Situation Reveals Five Distinct Steps.—On examination, each instance reveals, more or less clearly, five logically distinct steps: (1) a felt difficulty; (2) its location and definition; (3) suggestion of possible solution; (4) development by reasoning of the bearing of the suggestion; (5) further observation and experiment leading to its acceptance or rejection; that is, the conclusion of belief or disbelief.—Dewey: How We Think, p. 72.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

EPILEPSY AND KETOGENIC DIET

To the Editor:—Please advise me as to the present status of the treatment of epilepsy with a ketogenic diet. On what theory is this diet based? What degree of acidosis is necessary? Is it necessary to cut down the proteins too? Has the diet any dangers for the patients? Kindly advise me as to a scheme of diet, and also as to the literature on this question.

Nicholas Schiller, M.D., New York.

Answer.—The employment of a ketogenic diet in the treatment of epilepsy was the outcome of the observation that the seizures sometimes cease during starvation. Wilder suggested that this effect was due to the anesthetic effect of aceto-acetic acid in the blood. Acidosis can also be produced by a diet rich in fats and poor in proteins and carbohydrates, and the purpose is to carry this to the point at which acetone and diacetic acid appear in the urine. The diet prescription must be individual. Peterman recommends that the basic dietary requirement should be estimated by a reading of the basal metabolic rate, to which should be added a caloric value of about 30 per cent; this, as a rule, is about 77 calories for each kilogram of body weight. The ketogenic diet should be instituted gradually, the carbohydrates and proteins being progressively reduced and the caloric value maintained by the addition of fat. The final diet will contain from 10 to 15 Gm. of carbohydrate and 1 Gm. of protein for each kilogram of body weight, with approximately 7 Gm. of fat for each gram of carbohydrate and protein combined. The body weight must be watched and the diet regulated accordingly to avoid emaciation. It is said that nausea, vomiting and other symptoms can be controlled by the administration of orange juice, and that there have so far been no harmful results. After a time on the more rigid diet, carbohydrates and proteins can be cautiously substituted for some of the fat. Reports on the results of the treatment are contradictory, the best being those of Peterman with children. The cases selected are those which do not present evidence of organic lesions of the nervous system. Weeks, Renner, Allen and Wishart, from a careful study, report entirely negative results. References to the most important articles on this subject will be found in the article by Dr. M. G. Peterman in The Journal, June 27, 1925.

FOREIGN BODY IN THE RECTUM

To the Editor:—A woman patient in using a fountain syringe for an enema had the hard rubber tip come off the rubber and slip into the rectum. This was several days ago. It has not passed out, nor can it be located with the finger in examining the rectum. Is there any danger of serious results by leaving it there or what means could be employed to remove it? There has been no roentgen-ray examination. Please do not publish my name.

M.D., Iowa.

Answer.—Such foreign bodies may be expelled with the feces without the patient's knowledge. A roentgen-ray examination is indicated; if after a reasonable time the tube is not passed spontaneously, it will probably be removable with the help of a proctoscope or a sigmoidoscope. Only gentle laxatives are indicated in a case of this kind, if catharsis is employed at all, as liquid bowel movements or violent persistalsis increases liability to injury.

EFFECTS OF CINCHOPHEN

To the Editor:—Is cinchophen depressing to the heart? If so, how does it compare in this respect to the salicylates? What untoward effects are exhibited as the result of administration of cinchophen to an unsuitable case? How can such symptoms best be overcome? In what types of cases should cinchophen be withheld? Please omit my name.

M.D., Pennsylvania.

Answer.—Cinchophen is not directly depressant to the heart muscle. The circulatory collapse produced by the toxic doses is due to effect on the vagus and vasomotor centers. In cases of poisoning, the rapid weak pulse and low blood pressure are associated with good heart action, indicating a marked depression of the vasomotor system rather than a cardiac phenomenon. The fatal dose of cinchophen on peroral administration is about twice as high as that of acetylsalicylic acid, showing how much less toxic it is than salicylate. It occasionally produces local irritation in the digestive tract, as indicated by anorexia, nausea and other digestive disturbance. There may be scarlatiniform, urticarial or purpural skin eruptions, and edema with fever. Cinchophen in large doses is also liable to produce albuminuria, though less so than salicylate. Sodium bicarbonate is believed to lessen gastric and renal irritation, and calcium treatment may be of value in the exudative eruptions. A liberal amount of water should always be given along with cinchophen to prevent precipitation of uric acid. The use of neocinchophen obviates the gastric irritation and lessens the possibility of toxic effects because its limited solubility prevents absorption of toxic amounts. Besides the presence of known idiosyncrasy against it, urate calculism is the only condition that contraindicates the use of cinchophen.

SYPHILITIC INFECTION AND IMMUNITY

To the Editor:—Two patients, husband and wife, give a history that the wife, a primipara, had delivered a still-born baby at term. A Wassermann reaction of the blood of the husband was negative; of the wife, four plus. As it seemed that there must be a mistake, a second Wassermann test was done by a different technician, with like result. The interval between tests was about six months. Is there a natural immunity? Would the wife alone require treatment? Can the husband be excluded as the infecting agency? Would the two four-plus Wassermann reactions definitely establish the wife as infected? Please use initials only.

E., West Virginia.

Answer.—Two strongly positive Wassermann reactions at an interval of six months establish the diagnosis of syphilis with fair certainty. The negative test in the husband does not indicate that he is not syphilitic or that he has not infected his wife. Not infrequently, husbands who presumably have infected their wives have negative serum Wassermann reactions. Both patients should be studied further. If the wife's infection cannot be traced to another source even though the husband shows no other sign of the disease, he may take some mild treatment as a precaution, and it has a good mental effect on both. There is apparently no natural immunity to syphilis except that due to the presence of the disease.

TREATMENT OF DRY TOOTH SOCKETS

To the Editor:—I have had several patients who had recent dry extractions of teeth pay visits to me for relief of constant pain. It seems to me that I have heard of some antiseptic oil treatment for the tooth sockets. Kindly advise me whether such is the case, and what this treatment is.

David M. Marcus, M.D., Detroit.

Answer.—In the treatment of "dry socket," when there is accompanying pain, dentists employ such agents as eugenol, applied by means of a small piece of gauze. The analgesic effect of this may be prolonged by dipping the gauze in a mixture of equal parts of creosote and tincture of iodine, and squeezing out the excess, before charging it with the eugenol, the creosote-iodine mixture being too destructive to the tissues of a "dry socket" to be applied in any quantity. The packing is allowed to remain in the socket for a day or two, when the treatment may be repeated. This may have to be carried on for a week or ten days, but it generally succeeds in giving relief from the very first.

HEADACHE AFTER SPINAL PUNCTURE

To the Editor:—Please give me the latest theories concerning the cause of the headache and general debilitating effect following lumbar puncture; also the most helpful treatment. Please omit my name.

M.D., Alabama.

Answer.—The severe headache frequently caused by spinal puncture is not due to the few cubic centimeters of fluid ordinarily needed for examination but to the subsequent seepage of fluid through the puncture in the dura. As the dura is a dense, tough and not very vascular membrane, the puncture is slow to close. Sicard of Paris showed years ago that a puncture hole in the dura, even when made by a small needle, closes only after from thirty-two to thirty-four hours. The conclusion is obvious. The puncture should be made by a small needle, not to exceed 1 mm. in diameter (0.8 mm. is better), and the patient should be kept in a recumbent posture for thirty-six hours following the puncture. While some patients do not have unpleasant symptoms even when they continue to go about from the time of the puncture, occasionally recumbency for thirty-six hours is not enough. If the patient begins to have headache after thirty-six hours, this will immediately disappear if he lies down, especially if

the foot of the bed is raised. As Greenfield of London has pointed out, it is also well to puncture the dura with the bevel of the needle parallel with the long axis of the cord.

With these precautions, unpleasant symptoms following lumbar puncture may be absolutely prevented except in some cases of cerebral tumor.

BOOKS ON SEX HYGIENE

To the Editor:—Please give me the names of books on sex hygiene and knowledge suitable for boys and girls, young men and young women; also addresses of venders. M.D., Texas.

ANSWER.—The following is a list of recommended material on this subject:

Boy's Venereal Peril, published by American Medical Association, 535 North Dearborn Street, Chicago.

Galloway, T. W.: The Father and His Boy, 1922. Association Press, 347 Madison Avenue, New York.

Galloway, T. W.: 1. The Sex Factor in Human Life: Outline for College Men. 2. Sex and Life. (On list of American Social Hygiene Association, 370 Seventh Avenue, New York.)

Gerrish, F. H.: Sex Hygiene: A Talk to College Boys, R. G. Badger, 194-200 Boylston Street, Boston.

Lowry, E. B.: Truths: Talks with a Boy Concerning Himself, Forbes & Co., 443 South Dearborn Street, Chicago.

Pamphlets issued by American Social Hygiene Association, 370 Seventh Avenue, New York.

Gruenberg, B. C.: High Schools and Sex Education, U. S. Public Health Service, in collaboration with the U. S. Bureau of Education, Washington, Government Printing Office, 1922, 50 cents.

Hood, Mary G.: For Girls and the Mothers of Girls, New York, Bobbs-Merrill Company, 1914, $1.25.

Galbraith, A. M.: Four Epochs of a Woman's Life: 1. What a Young Girl Ought to Know. 2. What a Young Woman Ought to Know. 3. What a Young Wife Ought to Know. 4. What a Woman of 45 Ought to Know. Philadelphia, W. B. Saunders Company.

Von Gruber, Max: Hygiene of Sex, Baltimore, Williams and Wilkins Company, 1926, $1.50.

PREVENTION OF SCARLET FEVER

To the Editor:—In the light of our present knowledge of immunization against scarlet fever and the unpleasant results frequently following serum injections, kindly outline treatment for the average child, say of 7 years, recently exposed to this disease, in whom the Dick test has not been done. Please omit name and address. M.D., New Jersey.

ANSWER.—The ideal procedure in case of a child exposed to scarlet fever is to make a skin test to determine whether the child is susceptible or immune to scarlet fever and at the same time make nose and throat cultures on blood agar plates to learn whether or not the child is infected with hemolytic streptococci. If the skin test is entirely negative, indicating that the child is immune to scarlet fever, further preventive measures are not indicated unless the cultures show the presence of hemolytic streptococci, in which case the child should be regarded as possibly an immune carrier and be kept away from other susceptible children until they have been immunized or until its cultures have become negative. In case the skin test is positive, indicating that the child is susceptible to scarlet fever, the next step depends on the results of the nose and throat cultures. If these are negative for hemolytic streptococci and further exposure to the scarlet fever patient or to immune carriers can be avoided, active immunization with five graduated doses of toxin should be begun at once. If the skin test is positive, indicating susceptibility to scarlet fever, and the nose and throat culture is positive for hemolytic streptococci, the administration of a prophylactic dose of scarlet fever antitoxin is justified. Severe reactions do not follow the use of the antitoxin unless the child is already sensitized to horse serum. If it is possible for the physician to see the child daily and watch for such early symptoms of scarlet fever as general malaise, fever, sore throat or nausea, the prophylactic antitoxin may be withheld and a therapeutic dose of antitoxin given on the appearance of the first symptoms.

If it is not possible to get the nose and throat cultures on blood agar plates, it is usually still possible to make a skin test to determine susceptibility to scarlet fever and, in case the skin test is entirely negative, take only those precautions indicated by the quarantine regulations concerning contacts, keeping in mind that the child may be temporarily, at least, an immune carrier capable of infecting others who are susceptible to scarlet fever. In case the skin test is positive, indicating susceptibility to scarlet fever, and it is not possible for the physician to make daily observations of the child, the administration of a prophylactic dose of antitoxin is justifiable, especially in those instances in which there is no history of previous administration of horse serum in any form. If the child can be observed daily, the prophylactic dose of antitoxin may be withheld, as described, and a therapeutic dose of antitoxin given on the appearance of the first symptom.

If it is not possible to make a skin test to determine susceptibility or immunity to scarlet fever, full advantage cannot be taken of the recently developed methods for the prevention of scarlet fever. Daily observations with early administration of a therapeutic dose of antitoxin on the first appearance of symptoms would at least give the child the benefit of early treatment, thus reducing the chances of complications and sequelae.

In every case in which prophylactic doses of antitoxin are employed, it must be kept in mind that the antitoxin confers only a passive protection and that as soon as the foreign serum is eliminated from the body the susceptibility to scarlet fever returns. Passive protection with the prophylactic dose of antitoxin should be followed by active and more permanent immunization with the graduated doses of toxin. This may be begun from ten days to two weeks after administration of the antitoxin, provided further exposure to scarlet fever is avoided.

In all cases the established quarantine regulations should be observed.

EPITUBERCULOSIS

To the Editor:—In translating some German articles on tuberculosis in childhood, I have noted references to "epituberculosis." Will you kindly tell me briefly what is understood by that term and what, if any, American term describes the same condition?

RALPH R. SCOBEY, M.D., Syracuse, N. Y.

ANSWER.—The more common, as well as the more descriptive, name for "epituberculosis" is "epituberculous infiltration," which has been suggested by Eliasberg and Neuland (*Jahrb. f. Kinderh.* **93**:88, 1920; **94**:102, 1921). Its pathologic substratum consists of a collateral hyperemia and inflammatory (lymphocytic) infiltration surrounding a tuberculous focus. Although this infiltration is not of a tuberculous nature, it probably occurs only in a part of the lung that has been made allergic by the diffusion of the poisons from the tuberculous focus. Other authors believe that regional swelling of bronchial lymph nodes due to a tuberculous focus is responsible for the lymphatic stasis in the corresponding part of the lung.

Other names for the same condition—some of them older than "epituberculous infiltration"—are: paratuberculosis, splenopneumonia, pneumonic massive, Grancher's disease, hilum pneumonia, and perifocal inflammation.

It occurs, as a rule, in children under the age of 4. Although the patient's general condition is not very good (pale complexion, loss of appetite), it is much better than would be expected from the massive dulness and bronchial breathing extending over a whole lobe of a lung. Tubercle bacilli are not found in the sputum. There is as a rule no fever, and the infiltration disappears completely in a few weeks or months. After this, enlarged bronchial and paratracheal lymph nodes are the only roentgenologically demonstrable change.

Other references:

Friedenberg, V.: Ueber die rückbildungsfähigen Lungeninfiltrationen bei der kindlichen Tuberkulose an Hand von 14 im K. A. V. H. beobachteten Fällen, *Ztschr. f. Kinderh.* **40**: 493 (Dec. 31) 1925.

Schmitt, W.: Das "epituberkulöse" Infiltrat, *Med. Klin.* **22**: 543 (April 1) 1926.

Schlack, H.: Die Frage der sog. epituberkulösen Infiltration der Lunge, *Beitr. z. Klin. d. Tuberk.* **63**: 275, 1926.

EXCESSIVE PERSPIRATION

To the Editor:—A boy, aged 11 years, has had mumps and measles; otherwise, the past history is negative. He is of normal weight and of the average height for his age, the chest, blood and urine are normal, he eats well and he learns well in school. He looks bright, says he feels good, and plays well. He sleeps well. He sweats profusely all night, and has for three years. What would be the probable cause of this? Please omit name. M.D., Indiana.

ANSWER.—The quantity of sweat excreted varies greatly in individuals. It is influenced by temperature, humidity and exercise. Improper ventilation, excessive clothing, sleeping garments or bed covering may be factors in increasing body temperature and thereby increasing the excretion of sweat. Excessive perspiration is seen during the course of, or after the decline of the fever in many infections. It is not a common symptom of tuberculosis in children, but may be present, usually associated with the hectic type of fever in older children. Increased flow of sweat is seen during the course of rickets and may be present a considerable time after healing has taken place. In children this is the most frequently

encountered etiologic factor. Both organic and functional disturbances of the nervous system may result in increased perspiration, hemiplegia, tabes, lesions of the sympathetic system, and neurasthenia. During emotional states and in highly emotional individuals, sweating may be profuse. Children of the so-called high-tension group and those physically and mentally fatigued by high pressure in school and play frequently have an increased flow of sweat. These children usually have moist palms and foreheads, and their undergarments may be damp under ordinary conditions of temperature and humidity. Sweating at night is not unusual.

ARSENICAL DERMATITIS

To the Editor:—A patient with a small chancre of about thirty days' duration, showing Wassermann reaction four plus, three antigens, uric analysis negative, was given an initial dose of 0.4 Gm. of neoarsphenamine. About twenty-four hours afterward he had several drinks of whisky. This was immediately followed by an eruption, or what we thought was arsenical dermatitis. This cleared up under treatment in about a week's time. In your opinion, how soon would it be advisable to try him on arsenic again? Also what preparation and size dose would you give? At present I have him on bismuth salicylate and mercurosal.

J. B. BENTON, M.D., Minden, La.

ANSWER.—A diagnosis of arsenical dermatitis is certainly not clear from the facts given by our correspondent. Arsenical dermatitis does not usually come up within twenty-four hours after the first dose of arsphenamine, and after one dose it is usually so mild as to be only a premonition of the necessity of care in preventing a serious dermatitis later. It would seem to be advisable in such a case as this, especially in view of the need for arsphenamine in such an early case, to continue treatment immediately, but cautiously, using as before arsphenamine or neoarsphenamine.

SYMPTOMS AFTER REMOVAL OF SPINAL FLUID

To the Editor:—Why does oliguria develop after removal of 10 cc. or more of spinal fluid under these conditions: (*a*) diuresis in an apparently normal subject; (*b*) induced diuresis; (*c*) diabetes insipidus? Is lumbar puncture accepted as a palliative measure in diabetes insipidus?

R. CORREA S., M.D., Santiago, Chile.

ANSWER.—Questioning several neurologists, search through textbooks, and some study of the literature fail to reveal any evidence that oliguria develops in the conditions mentioned. Lumbar puncture may be a palliative measure in diabetes insipidus. For some unknown reason in several instances (Tucker, Herrick) cure has been effected by spinal puncture.

TREATMENT OF RICKETS

To the Editor:—Will a formula containing evaporated milk, imperial granum and lactose, without any addition of other food factors, such as cod liver oil or orange juice, prevent or cure rickets in an infant 13 weeks of age? Please omit name.

M.D., New York.

ANSWER.—Such a formula will not prevent or cure rickets in any infant. At present cod liver oil is given to breast fed infants as well as those artificially fed, regardless of the type of milk mixture prescribed.

DELAYED DEVELOPMENT

To the Editor:—A girl of 16, otherwise normal and healthy, except a little hard of hearing, shows no evidences of puberty. She seemed to grow normally until about 12 years of age, when all development stopped. What treatment would you suggest in the case? If organotherapy, what particular preparation would you suggest? Please omit name.

M.D., Chicago.

ANSWER.—The development of puberty may be delayed or in certain individuals never established. Menstruation is an expression of the establishment of puberty in the female. It may be delayed until the sixteenth or seventeenth year. The delay may be associated with poor physical conditions, malnutrition, anemias, chronic infections, malformations and faulty development of the vagina, uterus and ovaries. Endocrine disturbances undoubtedly are an important factor in this group of individuals. The direct relation of any one gland of internal secretion and the interrelation of these glands is not clearly understood at present. The ovaries, thyroid, parathyroid, thymus, pituitary, pineal and suprarenals are all considered to have some relation to the establishment of puberty. Future study seems likely to give a more clear conception of their exact relationship. Such cases deserve a most careful physical examination, including examination of urine and blood, Wassermann reaction, metabolism rate determination and roentgen ray. Treatment must be governed by the results in the individual case. Ovarian substance and thyroid extract, the latter in doses well tolerated by the patient, offer the greatest possibilities.

TREATMENT OF SCARLET FEVER

To the Editor:—In treating scarlet fever and by immunizing contacts, I have endeavored to lower the quarantine period. I have obtained excellent results by the use of the serum. A communication from the state board of health, however, says that as yet no change has been made in its regulations, and that it still regards the serum treatment in an experimental stage. This seems to me a trifle too conservative, and Musser's article (THE JOURNAL, April 9, p. 1126) bears out my limited experience. Would you kindly comment on this, giving a general view of the situation? Please omit name.

M.D.

ANSWER.—While the treatment with antitoxic serum may give excellent results, it probably is not yet established clearly to what extent it may shorten the period of infectivity of the patient, which is the factor that determines or should determine the length of quarantine. Whether a convalescent scarlet fever patient is infective is a difficult question to settle in any case, and it can hardly be expected that boards of health will change established regulations hastily.

BUTTER OR OLEOMARGARINE

To the Editor:—From time to time I have heard argued the question of the advantage, or lack of it, of butter over oleomargarine, particularly in the case of children. Desiring accurate information on the point in question, I am addressing this query to you. Butter and oleomargarine, as I understand, have nearly identical food value; what are the arguments in favor of either aside from the cost, for children or adults? Please omit name.

M.D., California.

ANSWER.—Margarine, or butter substitute, may contain in addition to butter fat other animal fats and vegetable fats. While these fats are digested and absorbed even by young children, they are different in the fat-soluble vitamin. Margarine prepared from animal fat contains the vitamin in proportion to the amount of animal fat which it contains. Lard, olive, cottonseed or cocoanut oil, or hardened vegetable or animal fats do not contain any of the fat-soluble vitamin.

NEUROTROPIC SPIROCHETES IN SYPHILIS

To the Editor:—I should greatly appreciate references to the existence of neurotropic spirochetes in syphilis.

PEDRO DÍAZ, M.D., Puerta de Golpe, Cuba.

ANSWER.—It is still disputed among syphilologists whether there exist neurotropic spirochetes in syphilis. Nichols (Observations on a Strain of Spirochaeta Pallida Isolated from the Nervous System, *J. Exper. Med.* **19**:362, 1914) believed he had isolated such a strain, and Matauschek and Polcz (quoted by Stokes, Modern Clinical Syphilology, Philadelphia, W. B. Saunders Company, 1926, page 7) reported a series of cases in which five Austrian army officers developed general paralysis after being infected by the same woman. In the present state of our knowledge, it is impossible to state definitely whether neurosyphilis is caused by a neurotropic strain of spirochetes or is the result of a special neurologic susceptibility of the host.

HYPERTONIC SALT SOLUTION FOR CEREBRAL DEHYDRATION

To the Editor:—Please publish the technic for giving hypertonic solution for cerebral dehydration in brain tumor to relieve intracranial pressure.

HART LITCHFIELD, M.D., Quincy, Ill.

ANSWER.—Following the experimental work of Weed, McKibben and Foley, demonstrating that hypertonic solutions administered intravenously reduce spinal fluid pressure, Sachs and Belcher (THE JOURNAL, Sept. 4, 1920, p. 667) first used this procedure clinically. One hundred cubic centimeters of saturated sodium chloride solution is given intravenously at the rate of about 5 cc. a minute. One hundred cubic centimeters of 30 per cent sterile glucose may be used with the same effect. Sodium chloride by mouth has a slower and less marked effect and may cause gastrointestinal symptoms. This procedure has only a temporary effect and must be followed or accompanied by adequate decompression.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

AMERICAN BOARD FOR OPHTHALMIC EXAMINATIONS: Washington, D. C., May 17. Sec., Dr. William H. Wilder, 122 So. Michigan Blvd. Chicago.

CALIFORNIA: San Francisco, June 27-30. Sec., Dr. Charles B. Pinkham, 908 Forum Bldg., Sacramento.

COLORADO: Denver, July 5. Sec., Dr. David A. Strickler, 1011 Republic Bldg., Denver.

CONNECTICUT: State Board of Healing Arts, New Haven, June 4. Prerequisite to examinations. Applications to be filed by May 21. State Board of Healing Arts, Box 1895, Yale Station, New Haven.

DELAWARE: Wilmington, June 21-23. State Society and Homeopathic. Pres., Dr. H. W. Briggs, 1026 Jackson St., Wilmington.

FLORIDA: Tampa, June 13-14. Sec., Dr. Wm. M. Rowlett, Box 603, Tampa.

GEORGIA: Atlanta and Augusta, June 8-10. Sec., Dr. J. W. Palmer, Ailey.

ILLINOIS: Chicago, June 28-30. Supt. of Regis., Mr. V. C. Michels, Springfield.

INDIANA: Indianapolis, June 21-23. Sec., Dr. E. M. Shanklin, 421 State House, Indianapolis.

IOWA: Iowa City, June 7-9. Director of Exams. and Licensure, Mr. H. W. Grefe, Des Moines.

KANSAS: Topeka, June 21. Sec., Dr. A. S. Ross, Sabetha.

KENTUCKY: Louisville, June 21-23. Sec., Dr. A. T. McCormack, 532 W. Main Street, Louisville.

MAINE: Bangor, July 5-6. Sec., Dr. Adam P. Leighton, Jr., 192 State Street, Portland.

MARYLAND: Regular, Baltimore, June 21-24. Sec., Dr. Henry M. Fitzhugh, 1211 Cathedral St., Baltimore. Homeo. Baltimore, June 14. Sec., Dr. J. S. Garrison, 517 Old Orchard Rd., Ten Hills, Baltimore.

MICHIGAN: Ann Arbor, June 14-16 Detroit, June 20-22. Sec., Dr. Guy L. Connor, 707 Stroh Bldg., Detroit.

MINNESOTA: Minneapolis, June 21-23. Sec., Dr. A. E. Comstock, 636 Lowry Building, St. Paul.

MISSISSIPPI: Jackson, June 21-22. Sec., Dr. Felix J. Underwood, Jackson.

NEBRASKA: Omaha, June 7-9. Sec., Mr. Lincoln Frost, State House, Lincoln.

NEW JERSEY: Trenton, June 14-15. Sec., Dr. Charles B. Kelly, 28 West State Street, Trenton.

NEW YORK: Albany, Buffalo, New York and Syracuse, June 27-30. Chief, Professional Examinations, Mr. Herbert J. Hamilton, State Education Bldg., Albany.

NORTH CAROLINA: Raleigh, June 21. Sec., Dr. John W. MacConnell, Davidson.

NORTH DAKOTA: Grand Forks, July 5-8. Sec., Dr. G. M. Williamson, Grand Forks.

OHIO: Columbus, June 7-11. Sec., Dr. H. M. Platter, Hartman Hotel Bldg., Columbus.

OREGON: Portland, July 5-7. Sec., Dr. M. K. Hall, 816 Pittock Block, Portland.

PENNSYLVANIA: Philadelphia and Pittsburgh, July 5-9. Dir. Professional Education Bureau, Mr. C. D. Koch, Harrisburg.

RHODE ISLAND: Providence, July 7. Sec., Dr. B. U. Richards, Providence.

SOUTH CAROLINA: Columbia, June 28. Sec., Dr. A. Earle Boozer, 505 Saluda Ave., Columbia.

TENNESSEE: Memphis, Nashville and Knoxville, June 17-18. Sec., Dr. A. B. DeLoach, 733, Medical Arts Bldg., Memphis.

TEXAS: Austin, June 21-23. Sec., Dr. T. J. Crowe, 918 Mercantile Bank Bldg., Dallas.

VERMONT: Underhill, June 22-24. Sec., Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, June 15-18. Sec., Dr. J. W. Preston, Box 444, Richmond.

WISCONSIN: Milwaukee, June 28-30. Sec., Dr. Robert E. Flynn, La Crosse. Basic Science Board: Milwaukee, June 27. Sec., Dr. M. F. Guyer, Madison.

WYOMING: Cheyenne, June 1-2. Sec., Dr. G. M. Anderson, Cheyenne.

Connecticut March Examinations

Dr. Robert L. Rowley, secretary of the Connecticut Medical Examining Board reports the written examination held at Hartford, March 8-9, 1927. The examination covered 7 subjects and included 70 questions. An average of 75 per cent was required to pass. Eleven candidates were examined, all of whom passed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent
Yale University School of Medicine (1925) 77.4, 81.8, (1926) 83.8	(1924)	83.7,
Georgetown University School of Medicine	(1924)	78.7
Boston University School of Medicine (1924) 89.4,	(1926)	75.1
Tufts College Medical School	(1926)	75.5
University of Toronto Faculty of Med. (1923) 82.9,	(1926)	84.4
McGill University Faculty of Medicine	(1926)	80.3

Dr. Rowley also reports the examination held at Hartford, March 22, 1927, at which 5 candidates were licensed by endorsement of their credentials. The following colleges were represented:

ENDORSEMENT OF CREDENTIALS College	Year Grad.	Endorsement with
Johns Hopkins University Medical School	(1925)	N. B. M. Ex.
Harvard University (1918)	So. Carolina, (1924), (1925)	N. B. M. Ex.
Columbia University College of Phys. and Surgs.	(1910)	Kansas

Book Notices

A DESCRIPTIVE ATLAS OF VISCERAL RADIOGRAMS. By A. P. Bertwistle, M.B., Ch.B., F.R.C.S., and E. W. H. Shenton, M.R.C.S., L.R.C.P. Introduction to American edition by M. G. Seelig, M.D., F.A.C.S., Professor of Clinical Surgery, Washington University School of Medicine. Cloth. Price, $12. Pp. 250, with 330 illustrations. St. Louis: C. V. Mosby Company, 1926.

The general plan of this book is excellent. The various organic systems are discussed in regular order. They are preceded by a concise discussion of the pathologic lesions that can be shown either directly or indirectly by the roentgen ray, as well as the important roentgenologic points to be observed in making a diagnosis. On account of the limited space devoted to the discussions of the roentgenologic observations, twenty-two pages, to cover the alimentary tract, respiratory system, nervous system, blood vessels, teeth, foreign bodies, thyroid, nose and the female generative system, the statements are rather dogmatic and brief. The illustrations have been selected with care to portray particular lesions. The small inset in each film is of particular value to those not primarily interested in roentgenology. There is a full description of each illustration, usually accompanied by operative observations. Several normals are conveniently arranged for comparison with the pathologic ones in each system considered. There are several points in which there may be difference of opinion, as, for instance, that the oral administration is superior to the intravenous method in gallbladder visualization. The book can scarcely serve as an atlas for roentgenologic diagnosis to the experienced roentgenologist, though useful to the inexperienced; nothing is more dangerous than to try to make a diagnosis of an individual case because of similarity to a certain illustration. However, the book is instructive. The illustrations are of such high grade that they will furnish many a profitable evening to physicians interested in roentgen-ray diagnosis.

LEHRBUCH DER SYSTEMATISCHEN ANATOMIE. 3 Band.—Das Gefäss-System. Von Professor Dr. Julius Tandler, Vorstand der I. anatomischen Lehrkanzel, Wien. Paper. Price, 24 marks. Pp. 381, with 186 illustrations. Leipsic: F. C. W. Vogel, 1926.

The third volume of Professor Tandler's textbook maintains the standard of quality which characterized the first two volumes and which is confidently expected in any work of this distinguished anatomist. The book constitutes an excellent text covering the field of the blood and lymph vascular systems. An introductory, general account of the blood vessels is followed by a brief but instructive treatment of the blood plasma and the cellular elements of the blood. These general articles include a presentation of the minute anatomy of these structures and of the functions they perform. In the account of the blood vascular apparatus, the section on the heart is of unusual excellence. It includes about fifty new illustrations, which represent the conditions in systole and diastole with especial clearness. The models of the cavities of the heart as they appear in the different phases of its activity will be of interest and value to students and clinicians. Forty-three pages and eighteen illustrations are devoted to the lymph vascular system. This section maintains the standard of quality that characterized the blood vascular system. The work can be unhesitatingly recommended and the excellent illustrations will be deeply appreciated by all students in this field.

SYMBIONTICISM AND THE ORIGIN OF SPECIES. By Ivan E. Wallin, Sc.D., Professor of Anatomy in the University of Colorado School of Medicine. Cloth. Price, $3. Pp. 171, with illustrations. Baltimore: Williams & Wilkins Company, 1927.

Normal plant and animal cells contain minute bodies known as mitochondria, to which have been attributed a variety of cell activities. Dr. Wallin has attempted to demonstrate the bacterial nature of mitochondria and to postulate a theory which he calls "symbionticism." This expression signifies a symbiotic relationship between mitochondria and living cells. This relationship is regarded as so close and so fundamental that it leads to the somewhat startling conclusion that symbionticism is the "fundamental principle controlling the origin of species." New species are assumed to have their origin

in the fusion of mitochondria with the cells in which they are found, possibly through the formation of new genes. The experimental evidence in support of this theory is based on the author's published researches in which he claims to have demonstrated that mitochondria are bacteria. This conclusion is reached after finding bacteria in cultures containing embryonic liver tissue in a suitable medium and after prolonged incubation. The observations noted by Wallin are quite familiar to bacteriologists who have had occasion to make tissue cultures. The mere fact that globoid bodies and forms resembling bacteria can be observed under the microscope in slide preparations from such cultures constitutes little or no real evidence. Even the presence of bacteria which closely resemble ordinary forms in subcultures is hardly convincing on account of the well known technical difficulties in tissue culture work. The rather acute experiences of certain English workers are still fresh in the minds of bacteriologists, and there will be great reluctance in accepting the author's experimental evidence. It has recently been demonstrated that bacteria of known varieties can be continuously isolated from the blood and fleshy tissues of healthy animals; but that they are present in anything but small numbers is equally certain. Having established in his mind the bacterial nature of mitochondria, Dr. Wallin proceeds to speculate concerning the relation between these bacterial bodies and other living cells. In general, his line of reasoning is that there is little evidence against his symbiotic theory and that therefore it is plausible. The arguments in favor of the theory are based on behavior of known bacteria, including supposed symbiotic activities and certain morphologic observations that have not been generally accepted, as well as on somewhat disputed interpretations of the actions of mitochondria. One may agree with the author that "it is highly unsatisfactory, and it invites criticism, to delve into extensive hypothetical analyses and discussions." The formulation of a theory as a working hypothesis is not only allowable but may be a helpful stimulus for research. It is, however, difficult to accept, even tentatively, a theory based, as smybioticism appears to be, more on speculation than on fact.

IN BORNEO JUNGLES AMONG THE DYAK HEADHUNTERS. By William O. Krohn, Ph.D., M.D. Cloth. Price, $5. Pp. 327, with illustrations. Indianapolis: Bobbs-Merrill Company, 1927.

The author went to Borneo to rest, traveling leisurely by way of Honolulu, Hongkong, Manila and Singapore. At Samarinda, the trip of more than 300 miles up the Mahakam River into the jungles began in company with a representative of the Dutch colonial government and his wife. Visiting the sultan of Koekai to pay respects was a diplomatic move which gave entrée to the villages of ten tribes of Dyaks, aborigines of Borneo, living in the midst of the jungle. The author went among them studying their characteristics, home life, traits of character, sports, music, arts and crafts, ceremonials and customs. He found them lovable and peaceful. Their greatest need, in his opinion, is religion in a broad sense, such as will supply purpose to life rather than a nonvital, formal regard for traditions. The Dyaks now have an excellent code of ethics. This travel story is refreshing. There is no exploitation of the author's marksmanship so common in travel to primitive lands.

DIE CHEMIE DER NAHRUNGS- UND GENUSSMITTEL: Ein Lehrbuch für Chemiker und Mediziner. Von Prof. Dr. Franz Fuhrmann, Vorstand der Lehrkanzel für technische Mykologie und Chemie der Nahrungs- und Genussmittel der technischen Hochschule in Graz. Paper. Price, 24 marks. Pp. 610, with 42 illustrations. Berlin: Urban & Schwarzenberg, 1927.

This textbook on the composition of foods and of food accessories, including a discussion of their production and preservation, is clear, concise, and quite complete. It is rather unfortunate that in this, and other recent German publications, the term vitamin D is suggested for the water soluble growth promoting portion of vitamin B; while the antirachitic oil soluble vitamin, for which the letter D has been proposed in this country, is classed with vitamin A. It is most desirable that some agreement on these terms be arrived at as soon as possible, before hopeless confusion ensues.

THE NATURAL PROCESSES OF HEALING IN PULMONARY TUBERCULOSIS. By Marc Jaquerod, M.D., Physician in Charge, Grand-Hôtel Sanatorium, Leysin, Switzerland. Translated by J. Denny Sinclair, M.B., Ch.B. Cloth. Price, $3. Pp. 107, with 105 illustrations. New York: William Wood & Company, 1927.

The author, in his preface, draws a comparison between the high mortality from pulmonary tuberculosis in former years and the increased number of cures of the present day. He frankly uses the word "cures" without the qualification "apparent" which is current in this country. Statistics are omitted because the author thinks that the end-results in pulmonary tuberculosis are dependent on so many complex factors that deductions are not basable on simple numerical formulas. The proportion of cures is held to be of less importance than the reasons for their occurrence; hence Jacquerod prefers to occupy himself with anatomic and biologic processes involved in the phenomena of healing. Stress is laid on the frequence of resolution of the lesions of pulmonary tuberculosis, which, the author points out, may occur in all cases of pulmonary tuberculosis when the lesions are relatively recent. This resolution begins, it is asserted, only when the general condition of the patient commences to improve. According to the writer, expectoration is an important means of ridding the lung of diseased tissue and bacilli, supplementing the work of inefficient phagocytes which are scarcely able to eliminate the "pachydermatous tubercle bacillus." The author insists on the importance of the rest cure, being thus in full accord with American workers. The book contains thirty-one case records accompanied by diagrams and roentgen-ray reproductions. The book is clearly and simply written and is much more valuable than its size would indicate.

KOMPENDIUM DER GEBURTSHILFE. Ein kurzes Lehrbuch für Studierende und Aerzte. Von Dr. Walther Hannes, a. o. Professor an der Schles. Friedrich-Wilhelms-Universität in Breslau. Second edition. Paper. Price, 10.50 marks. Pp. 364, with 160 illustrations. Berlin: Urban & Schwarzenberg, 1927.

In this edition of Hannes' condensed treatise on obstetrics, the author has included briefly must of the accepted contributions of the past six years in this field. While little space is devoted to argumentative reasoning or lengthy discussions, Hannes epitomizes each important subject. The book is intended for quick reference by the busy practitioner or for review purposes by the student. Reflecting as it does the practice of the Küstner clinic in Breslau, it should prove to be a distinct asset to the obstetric library.

APPLIED BACTERIOLOGY FOR NURSES. By Charles F. Bolduan, M.D., Surgeon (R), U. S. Public Health Service, and Marie Grund, M.D., Bacteriologist, Research Laboratory, Department of Health, City of New York. Fifth edition. Cloth. Price, $2 net. Pp. 245, with illustrations. Philadelphia: W. B. Saunders Company, 1927.

In this edition the authors have included recent developments in the field of bacteriology so far as these discoveries may be of interest to nurses. The book has been in use for too many years to require any detailed description. It is well and correctly written and a leader in its field.

THE MEDICAL DEPARTMENT OF THE UNITED STATES ARMY IN THE WORLD WAR. Volume XIV. Medical Aspects of Gas Warfare. Prepared Under the Direction of Maj. Gen. M. W. Ireland, the Surgeon General. By Col. Wilder D. Bancroft, C. W. S., and others. Cloth. Price, $3. Pp. 876,, with 242 illustrations. Washington: Government Printing Office, 1926.

On May 4, 1917, the Secretary of War directed that the Medical Department of the Army be charged with furnishing gas masks and other prophylactic apparatus for the army. With the organization of the Chemical Warfare Service, and by an order of June 28, 1918, gas defense ceased to be a function of the Medical Department. In this time, however, the Medical Department accomplished much, and the transfer of the responsibility for gas defense did not relieve the Medical Department of the responsibility for treating gas casualties. The great volume which is the subject of this review takes up thoroughly all aspects of the participation of the Medical Department of the U. S. Army in gas warfare. It is divided into three sections, on organization and administration of gas defense, clinical features, and experimental researches. The second section, on clinical features, which

is of most interest to the general medical profession, is subdivided into chapters on the physiologic and pathologic action of war gases, symptoms and treatment, and statistical consideration of gas casualties. The last of these chapters is divided into two sections, on gas casualties and on after-effects of gas poisoning. Both to medical men and to the general public, the figures given in the section on gas casualties are of interest:

> The total number of army officers and enlisted men injured in battle was 224,089, of whom 70,552, or 31.49 per cent, were reported as victims of gas poisoning. There were 13,691 deaths resulting from all battle injuries treated, of which 1,221, or 8.92 per cent, were attributed to the effects of the war gases.

As a basis of the section on the after-effects of gas poisoning, a study was made of 3,014 casualties caused by poisonous gases in the American Expeditionary Forces. Although the material cannot well be summarized, the following is abstracted from table 16, page 290:

Deaths:	
Total	132
Obviously not from the effects of gas	81
Discharges on surgeon's certificate of disability:	
For conditions not resulting from effects of gas	22
Total	62
Disability noted on demobilization:	
For conditions not resulting from effects of gas	38
Total	172
Compensations awarded and subsequently discontinued:	
Total	339
Under compensation:	
Total	622
Under maximum compensation 100 per cent	92
Under minimum compensation 10 per cent	225

This section closes with the paragraph:

> Among the noteworthy evidences of the effects of poison gases apparent from the results shown are: the great preponderance of effects on the respiratory organs; the comparative rarity of persistent effects on the eyes and upper respiratory passages; the greater proportion of deaths from the immediate or recent effects of mustard gas, while in its remote effects there is little or no difference from those of chlorine or phosgene; and a death rate, from pulmonary tuberculosis, over a period in excess of five years, less than the rate contained in the census report for 1920 for males from 20 to 24 years of age. The selectivity factor of those in military service is probably offset by the proportion of colored, among whom the rate is higher, included in the census report.

Apparently, this work contains many facts that are of importance to those who wish to voice opinions on gas warfare.

DEUTSCHER BÄDERKALENDER. Herausgegeben vom "Allgemeinen Deutschen Bäderverband E. V. Cloth. Price, $1. (Free to physicians.) Pp. 375, with illustrations. New York: German Health Resorts, 1926.

This annual publication aims to supply the physician with information he needs in the selection of a suitable German health resort for his patient. In addition to descriptive matter it contains charming pictures of various institutions and localities, adding to the practical value of the book. While the general tone of the therapeutic aspect is somewhat too optimistic, this is probably unavoidable in connection with resorts, in which optimism is one of the important therapeutic potencies.

BÄDER UND KURORTE IN IHRER BEDEUTUNG FÜR DIE PRAKTISCHE MEDIZIN. Von Dr. Hermann Weskott. Paper. Price, 3 marks. Pp. 83. Munich: J. F. Lehmanns, 1926.

This is a small but comprehensive brochure on climatotherapy and balneology, dealing of course only with the European health resorts. The general discussion, which occupies the greater portion of the booklet, is quite as applicable to conditions in America. It is to be regretted that similar publications are not available in this country dealing with the natural therapeutic resources. The Germans do much to utilize theirs; more lavishly endowed by Nature, Americans neglect theirs.

MANUAL OF MEDICINE. By A. S. Woodwark, C.M.G., C.B.E., M.D., Physician, Lecturer on Medicine and Dean of the Medical School, Westminster Hospital. Third edition. Cloth. Price, $4.75. Pp. 523. New York: Oxford University Press, 1927.

This is a typical vade-mecum, too brief to be of any real value to student or practitioner, and not even a good outline, as are some of the compends. The "many eminent authorities who have generously given advice" in the preparation of this edition requested that their names be not mentioned.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits. Books listed in this department are not available for lending. Any information concerning them will be supplied on request.

TUBERCULOSIS: Bacteriology, Pathology and Laboratory Diagnosis with Sections on Immunology, Epidemiology, Prophylaxis and Experimental Therapy. By Edward R. Baldwin, M.D., Director of the Trudeau Foundation, S. A. Petroff, Ph.D., Bacteriologist and Director of Trudeau Sanatorium Research and Clinical Laboratory, and Leroy S. Gardner, M.D., Pathologist and Director of Saranac Laboratory for the Study of Tuberculosis. The Trudeau Foundation Studies. Cloth. Price, $4.50. Pp. 342, with 86 illustrations. Philadelphia: Lea & Febiger, 1927.

Collection of fundamental investigations on the tubercle bacillus and its effects.

THE DISEASES OF INFANTS AND CHILDREN. By J. P. Crozer Griffith, M.D., Ph.D., Professor of Pediatrics in the Graduate School of Medicine of the University of Pennsylvania, and A. Graeme Mitchell, M.D., B. K. Rachford Professor of Pediatrics, College of Medicine, University of Cincinnati. In two volumes. Second edition. Cloth. Price, $20 per set. Pp. 1715, with 461 illustrations. Philadelphia: W. B. Saunders Company, 1927.

New edition of well-established textbook taking cognizance of new additions to pediatric knowledge.

PREVENTIVE MEDICINE AND HYGIENE. By Milton J. Rosenau, Professor of Preventive Medicine and Hygiene, Harvard Medical School. With Chapters Upon Mental Hygiene. By Abraham Myerson. Sewage and Garbage. By Gordon M. Fair. Vital Statistics. By John W. Trask. Statistical Methods. By Carl R. Doering. Conservation of Vision. By J. Herbert Waite. Fifth edition. Cloth. Price, $10. Pp. 1458, with 157 illustrations. New York: D. Appleton & Company, 1927.

New edition of the standard American reference on preventive medicine.

PHARMACEUTICAL AND MEDICAL CHEMISTRY. By Samuel P. Sadtler, Ph.D., LL.D., Virgil Coblentz, Ph.D., F.C.S., and Jeannot Hostmann, Ph.G. Sixth edition. Revised and rewritten by Freeman P. Stroup, Ph.M., Professor of General Chemistry, Philadelphia College of Pharmacy and Science. Cloth. Price, $7. Pp. 748. Philadelphia: J. B. Lippincott Company, 1927.

Advanced chemistry for special students in pharmacy and medicine.

LEHRBUCH DER MASSAGE. Band I: Die funktionellen Erkrankungen des Bewegungsapparates und die Theorie der Massage. Band II: Die Technik der Massage des Bewegungsapparates, der männlichen und weiblichen Beckenhöhle. Second edition. Paper. Price, 20 marks, and 30 marks, or the two volumes for 45 m. Pp. 992, with 448 illustrations. Bonn: A. Marcus & E. Weber, 1927.

Complete text on the theory and practice of massage.

BEOBACHTUNGEN UND ERGEBNISSE BEI EINER FÜNFJÄHRIGEN FRAKTURENBEHANDLUNG (klinische und unfallmedizinische Feststellungen). Von Dr. Hans Scheffler, Assistenzarz am Krankenhaus Bergmannsheil in Bochum. Paper. Price, 3 marks. Pp. 85, with 18 illustrations. Berlin: Julius Springer, 1927.

Monograph on care of fractures particularly in men 20 to 40 years old.

AIDS TO CASE-TAKING. A Practical Guide to the Examination and Recording of Medical Cases. By Henry Lawrence McKisack, M.D., F.R.C.P., Consultant Physician to the Royal Victoria Hospital, Belfast. Cloth. Price, $1.50. Pp. 168. New York: William Wood & Company, 1926.

New edition of British guide to procedure in diagnosis.

DIE ZUCKERKRANKHEIT UND IHRE BEHANDLUNG. Von Dr. C. von Noorden, Geh. Medizinalrat-Professor an der Universität Frankfurt a. M., und Dr. S. Isaac, Professor an der Universität Frankfurt a. M. Eighth edition. Paper. Price, 46.50 marks. Pp. 627, with 30 illustrations. Berlin: Julius Springer, 1927.

Eighth edition including German technic with insulin.

HEALTH SUPERVISION AND MEDICAL INSPECTION OF SCHOOLS. By Thomas D. Wood, A.M., M.D., College Physician, Teachers College, Columbia University, and Hugh Grant Rowell, A.B., M.D., Physician to the Horace Mann Schools. Cloth. Price, $7.50 net. Pp. 637, with illustrations. Philadelphia: W. B. Saunders Company, 1927.

Text prepared by leaders in school health work.

MEMÓRIAS DO INSTITUTO DE BUTANTAN, 1926. Tomo III. Fas. II. Paper. Pp. 331, with illustrations. São Paulo, Brazil, 1926.

THIS BUSINESS OF OPERATIONS. By James Radley. Foreword by J. M. Withrow, M.D., Chief of Staff, Christ Hospital, Cincinnati. Cloth. Price, $1. Pp. 96. Cincinnati: Digest Publishing Company, 1927.

Sympathetic appreciation of surgical assistance and hospital care.

GAMES AND SPORTS IN BRITISH SCHOOLS AND UNIVERSITIES. By Howard J. Savage, Staff Member, the Carnegie Foundation for the Advancement of Teaching. Cloth. Pp. 252. New York: Carnegie Foundation for the Advancement of Teaching, 1927.

Special study on sport as a socializing influence in British schools.

THE NEGRO IN THE RECONSTRUCTION OF VIRGINIA. By Alrutheus Ambush Taylor, A.M. Cloth. Price, $2.15. Pp. 300. Washington, D. C.: Association for the Study of Negro Life and History, 1926.

A historical account purporting to show that the negro was not a foreign element in Virginia after the Civil War.

OUTLINES OF COMMON SKIN DISEASES, INCLUDING ERUPTIVE FEVERS. Also Diet Plans for Children. By T. Caspar Gilchrist, M.D. Cloth. Price, $1.50. Pp. 54, with illustrations. Baltimore: Williams & Wilkins Company, 1927.

A handbook to aid practitioners in diagnosis and treatment.

THE DUKE OF DULUTH. By Thomas Hall Shastid, M.D. Two Volumes. Cloth. Price, $5 per set. Pp. 658. Ann Arbor: George Wahr, 1926.

Novel of service by an American medical author known also for writings in ophthalmology and medical history.

DIE BEKÄMPFUNG DES KURPFUSCHERTUMS. Von Med.-Rat Dr. med. et phil. Walter Lustig. Second edition. Paper. Price, 4.50 marks. Pp. 161. Berlin: S. Karger, 1927.

Elementary German text on quackery, not to be compared with American treatises; here quackery is an art.

CASEIN AND ITS INDUSTRIAL APPLICATIONS. By Edwin Sutermeister. Cloth. Price, $5 net. Pp. 269, with 12 illustrations. New York: Chemical Catalog Company, Inc., 1927.

Monograph on casein in paints, paper, glue, medicine, and other human interests.

STAMMERING AND ITS TREATMENT. By Samuel D. Robbins, A.B., A.M., Director, Boston Stammerers' Institute. Cloth. Price, $2. Pp. 121. Boston: Boston Stammerers' Institute, 1926.

Handbook for doctors and stammerers with hints and speech exercises.

RELATION OF VENEREAL DISEASES TO VISION IMPAIRMENT: American Social Hygiene Association and National Committee for the Prevention of Blindness.—Venereal Disease Control: American Social Hygiene Association and American Public Health Association. Paper. Pp. 73. New York: National Health Council, 1926.

THE BLACK DEATH. A Chronicle of the Plague. Compiled by Johannes Nohl from Contemporary Sources. Translated by C. H. Clarke, Ph.D. Cloth. Price, $4. Pp. 284, with illustrations. New York: Harper & Brothers, 1927.

TRANSACTIONS OF THE THIRTY-SECOND ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY, INC., MAY-JUNE, 1926. Cloth. Pp. 528, with illustrations. New Bedford: The Society, 1926.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS. Thirty-Eighth Annual Meeting, May, 1926. Vol. XIX. Paper. Pp. 411, with illustrations. Baltimore: Williams & Wilkins Company, 1926.

LEI N. 1.811 DE 29 DE JULHO DE 1925. Organiza a Sub-Secretaria de Saúde e Assistencia Publica. Decreto n. 4.144 de 20 de Novembro de 1925. Approva o Codigo Sanitario do Estado. Paper. Pp. 550. Bahia, 1926.

TRANSACTIONS OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY. Sixty-Second Annual Meeting, 1926. Vol. XXIV. Cloth. Pp. 397, with illustrations. Philadelphia: American Ophthalmological Society, 1926.

PROCEEDINGS OF FOURTH ANNUAL SHORT SCHOOL TEXAS ASSOCIATION OF SANITARIANS, October 27-30, 1926. Cloth. Pp. 155. Austin: Texas Association of Sanitarians, 1926.

TRANSACTIONS OF THE AMERICAN OTOLOGICAL SOCIETY. Fifty-Ninth Annual Meeting, June, 1926. Vol. XVII, Part 2. Paper. Pp. 569. New Bedford: The Society, 1926.

REPORT OF THE MEDICAL RESEARCH COUNCIL FOR THE YEAR 1925-1926. Paper. Price, 3s. 6d. net. Pp. 161. London: His Majesty's Stationery Office, 1926.

REPORT OF THE SECOND ANNUAL CONFERENCE OF THE MISSOURI PUBLIC HEALTH ASSOCIATION, APRIL, 1926. Paper. Pp. 39. Jefferson City, 1926.

Medicolegal

Liability of Coroner for Unauthorized Necropsy

(Coty et al. v. Baughman et al. (S. D.), 210 N. W. R. 348)

The Supreme Court of South Dakota, in affirming a judgment for $1,500 damages against a coroner, says that the action was brought by the father and mother of a child to recover for an alleged unauthorized necropsy performed on the body of the child after her death. The coroner contended that he had a right to perform the necropsy by virtue of his office regardless of the consent or objection of the parents. But the South Dakota statute provides that the coroner is authorized to hold an inquest "upon the dead bodies of such persons only as are supposed to have died by unlawful means." The phrase "supposed to have died by unlawful means" does not give to the coroner an unlimited, captious or arbitrary power to hold inquests. In this case it was clear from all the evidence before the coroner that the patient died either from tuberculosis or from bowel trouble. Both of these were natural causes of death. There was no ground on which to base a supposition that the child had died "by unlawful means." The coroner was therefore without authority to perform the necropsy (the necropsy being an integral part of the inquest), unless he was authorized to do so by the "next of kin of a deceased person, being charged by law with the duty of burial." It was admitted that before the necropsy was performed the mother gave notice that she did not wish it performed, but it was sought to justify what was done by saying that the father did not object when told that the necropsy would be performed, and by other conduct consented. However, the court thinks that the rights of the father and mother are equal in the body of their deceased child, and that the consent of both to a necropsy would be necessary when the father and mother were living together and both were within the state. The coroner contended that the plaintiffs could not recover for mental anguish unless there was a wilful and wanton mutilation of the body of their child, but with this the court cannot agree. The court thinks that when, as in this case, the wrongful act constituted an infringement of a legal right, mental suffering may be recovered for, if it is the direct, proximate and natural result of, the wrongful act. The coroner having no right to perform the necropsy in this case, it was immaterial whether or not the necropsy was performed in a skilful manner.

Mail-Advertising Maternity Home for Unmarried Women

(Dysart v. United States (U. S.), 47 Sup. Ct. R. 234)

The Supreme Court of the United States says that the circuit court of appeals—4 Fed. R. (2d) 765—affirmed a judgment of conviction under an indictment which charged that the petitioner, as he is here termed, deposited in a named postoffice, for conveyance through the mails, an obscene, lewd and lascivious printed card and letter, in violation of section 211 of the criminal code. The card and letter were intended to advertise a private home for unmarried women during pregnancy and confinement, who prefer to be away from home during such time in order "to preserve individual character or family reputation." The letter, ostensibly intended for a physician, stated:

The home is a private place for the care and protection of a few unfortunate women "until the time when they may return to their homes and friends, free from the burden of their mistake, to become useful members of society. . . . We find homes for infants by adoption when desired, or provide board for them at reasonable rates."

Only persons recommended by reputable physicians are accepted; and it invites visits by physicians.

Section 211 of the criminal code declares "every obscene, lewd, or lascivious, and every filthy book, pamphlet, picture, paper, letter, writing, print, or other publication of an indecent character" to be nonmailable matter, and that whoever shall knowingly deposit, or cause to be deposited for mailing or

delivery, anything declared by this section to be nonmailable, shall be fined not more than $5,000, or imprisoned not more than five years, or both. In *Swearingen* v. *United States*, 161 U. S. 446, 16 Sup. Ct. 562, this court said:

> The offense aimed at, in that portion of the statute we are now considering, was the use of the mails to circulate or deliver matter to corrupt the morals of the people. The words "obscene," "lewd" and "lascivious," as used in the statute, signify that form of immorality which has relation to sexual impurity, and have the same meaning as is given them at common law in prosecutions for obscene libel.

Notwithstanding the inexcusable action of the petitioner in sending these advertisements to refined women, it is not possible for this court to conclude that the indictment charged an offense within the meaning of the statute as construed by the opinion just cited. The judgment below must be reversed, and the cause remanded for further proceedings in harmony with this opinion.

Liability for Injured Employee Dying from Smallpox

(Schafer & Olson v. Varney et al. (Wis.), 210 N. W. R. 359)

The Supreme Court of Wisconsin had in this case a proceeding under the workmen's compensation act wherein compensation was sought for the death of a carpenter who in the course of his employment received injuries resulting in a broken leg. The fracture was reduced but the result was unsatisfactory, so that a couple of weeks later an operation was performed and plates were applied. Some three weeks later the plates were removed under an anesthetic, and a plaster cast was applied. Two weeks thereafter the man developed symptoms of smallpox. All this time he was confined in bed in the hospital. He was immediately taken to his home and cared for by his wife, but his death from smallpox resulted a short time thereafter. There was testimony by the physician in charge that the man's death was partially induced by his lowered vitality owing to his previous accident and the complications resulting therefrom. The industrial commission found for the claimant, and the circuit court affirmed the award entered by the commission. In the supreme court the case was considered by six members of the court, with the result that three of them thought the judgment appealed from by the employer should be reversed, while the other three justices were of the opinion that it should be affirmed; wherefore it was said, "Under the established rule, it follows that the judgment appealed from is affirmed."

Temporary Insanity from Opiates as Defense to Crime

(Prather v. Commonwealth (Ky.), 287 S. W. R. 559)

The Court of Appeals of Kentucky says that defendant Prather was convicted of the crime of fraudulent conversion of trust funds. In the fall of 1922, two notes aggregating more than $1,800 were sent to him for collection. He testified that he did not remember any part of the transaction except that he had a hazy recollection of having received the notes for collection and must have collected them and used the proceeds in the purchase of morphine. He further testified that in the year 1918 he underwent an operation for appendicitis which was followed by serious adhesions, causing him great pain, to relieve which his physician administered morphine, which he used to procure relief until he became a morphine addict; that for some time prior to and after this transaction he was using from 8 to 20 grains of morphine daily and spending all the money he could get for that drug, which he purchased at home and elsewhere on prescription and clandestinely, his defense being that he was of unsound mind and mentally irresponsible. However, he has since been treated for that habit and cured and is now of sound mind.

A large number of witnesses, both lay and professional, were introduced in the defendant's behalf, and his defense was upheld by the great weight of the evidence. There was, however, a scintilla of contradictory proof as to his condition which required a submission of the case to the jury, and as the case must, for error in the instructions to the jury, be reversed and tried again, this court will not now determine whether the verdict was flagrantly against the evidence. The instruction to the jury on insanity was followed by the qualification that, although the jury might believe from the evidence that the defendant was insane at the time he collected and converted the funds in question, yet if the jury should further believe from the evidence beyond a reasonable doubt that such insanity, if such there was, arose solely from the morphine habit, and that this habit was voluntarily acquired by the defendant, the jury could not acquit him on the ground of insanity. This court thinks that qualification was erroneous.

It is true that in cases of homicide in which previous malice is shown and in other cases in which a specific intent to commit a crime exists, voluntary drunkenness neither justifies nor mitigates the offense; and it is uniformly held that temporary insanity caused thereby is no defense in a criminal prosecution. Temporary insanity caused by the use of opiates is generally held to fall within the same principle. On the other hand, this court has drawn a distinction between cases in which the act constitutes the offense and cases in which there must be combined with the act done the intent of the accused, in order to constitute the offense; in the former it being held that such temporary insanity is no defense, and in the latter that such defendant may show that he was unconscious at the time or too drunk to have an intent.

But without reference to that distinction it may be said that here, as described by his witnesses, the defendant's condition was chronic; he had been a morphine addict for more than one year previous to the acts complained of and was daily consuming inordinate quantities of that drug. It is common knowledge that such addicts have a desire to stop using the drug but are unable to resist the craving for more of it, and it can hardly be said that a person in such condition is acting voluntarily in its continued use. In this respect it is immaterial whether in its inception such habit was voluntarily acquired or was formed in taking medicines administered by physicians. According to the undisputed evidence of the expert witnesses, such an addict is insane and will commit any character of crime to obtain the drug and is utterly irresponsible for such acts. If such insanity actually exists, the responsibility for the commission of such a crime is not to be distinguished from that of other insane persons. It follows that the qualification should not have been given.

Question of Roentgenologist's Negligence for Jury

(Stickney v. Congdon et ux. (Wash.), 250 Pac. R. 32)

The Supreme Court of Washington, in affirming, on the second appearance before it of this case, an order granting a new trial after a verdict for the defendants, says that the defendants were a physician and his wife from whom the plaintiff sought to recover damages for a roentgen-ray burn. It appeared from the testimony at the first trial that the roentgen-ray machine with its gages and controls was located in one room and the application of the ray to the patient, in doing both fluoroscopic and roentgenoscopic work, was in an adjoining room. It also appeared that during the observations of the plaintiff no person was left in charge of the gages or controls of the roentgen-ray machine. It was principally because the defendants at that trial had not presented any testimony showing or tending to show that the failure to have some one present to read the gages and controls was not negligence that this court granted a new trial after a verdict had been rendered for the defendants. But at the trial from which this appeal was taken the defendants covered this ground with testimony which tended to show that in the use of the roentgen ray for fluoroscoping and roentgenographing it was neither customary nor necessary to have some person in the room where the roentgen-ray machine was to read the controls. Plainly this testimony was amply sufficient to take the case to the jury on this question.

Again, while the plaintiff contended that the testimony conclusively showed that the roentgen-ray apparatus used by the defendants did not have any shutter or filterer, and that the absence of these caused the burn, the defendants had introduced considerable testimony by roentgen-ray experts to the effect that by the technic used by the defendants a burn could not be caused, although no shutter or filterer was used, and

that under the circumstances of this case and the manner of treatment, the defendants used ordinary care. In other words, it was not conclusively shown by the testimony that the defendants were guilty of negligence in not using a shutter and a filterer, or either. Furthermore, the defendants, in an effort to show how the burn might have been caused, presented testimony tending to show that there was a fluctuating electric current caused by the overloading of an electric transformer used by the company supplying the electricity. In this court's opinion, it was for the jury to determine whether the burn was or could have been caused because of this alleged fluctuating current, and, if such a current existed, whether the defendants were negligent in using it.

Milk Sickness an Accidental Cause of Death

(Buel v. Kansas City Life Ins. Co. (N. M.), 250 Pac. R. 635)

The Supreme Court of New Mexico, in affirming a judgment in favor of the plaintiff, says that she was the beneficiary of a life insurance policy for $2,000, to which was attached a double indemnity rider providing that, if the death of the insured should result from the effects of an injury, through external, violent and accidental cause, the amount payable would be $4,000. The trial court found that the death of the insured was the result of what is commonly known as milk sickness, or alkali poisoning, which was caused by the insured drinking milk from a cow or cows that had grazed on the weed known as goldenrod, from the effects of which the milk was contaminated in some manner. The insurance company contended that the evidence on which that finding was made was speculative, conjectural and theoretical, and thus not such substantial evidence as was required to support a finding of fact. But the supreme court deems it sufficient to say that the attending physicians at the time diagnosed the case in accordance with the trial court's finding. They remained of the same opinion at the time of the trial. It seems clear that such evidence is not to be considered unsubstantial. In other words, medical diagnosis made during treatment, and adhered to at the trial, is substantial evidence to support a finding as to cause of death.

Again, the insurance company contended that the foregoing finding did not support a conclusion that the company was liable under the double indemnity rider. Evidence was adduced tending to show that milk sickness is an infectious disease; is considered a fatal disease; that it occurs in epidemics; that patients have relapses; that the germ causing such disease has been isolated, and is known to the medical profession as *Bacillus lactimorbi*. Relying on this evidence, the company contended that the cause of death was shown to be an infectious disease like typhoid, and not the effects of an injury through external, violent and accidental cause. But there was no express exclusion of liability for death resulting from disease. Whether milk sickness is a disease was entirely immaterial, unless that fact of itself precluded a holding that it effected an injury through external, violent and accidental cause. If it is admitted, as is generally held, that there is liability for death resulting from the introduction into the system of a poisonous substance, injuring the body by causing lesions of the organs, what good reason is there for denying liability where the same final result is produced by toxins, perhaps generated within the body, but caused by bacilli from without? Such a distinction is not warranted by the decisions. Therefore this court holds that death from milk sickness or alkali poisoning from drinking milk from cows which have grazed on goldenrod is within the terms of a life policy indemnifying against death resulting from the effects of an injury through external, violent and accidental cause, even though such cause is considered an infectious disease, the product of a known bacillus.

Furthermore, the supreme court holds that where a $2,000 life insurance policy provided double indemnity for accidental death, and the insurance company, disclaiming liability as for accidental death, but not for the $2,000, tendered, and the beneficiary accepted $2,000, in full settlement, that was not an accord and satisfaction barring recovery for the remainder.

Society Proceedings

COMING MEETINGS

American Medical Association, Washington, D. C., May 16-20. Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

American Association for the Study of Allergy, Washington, D. C., May 16-17. Dr. A. H. Rowe, 242 Moss Ave., Oakland, Calif., Sec'y.
American Association for the Study of the Feebleminded, Cincinnati, June 4-6. Dr. H. W. Potter, Thiells, New York, Secretary.
American Bronchoscopic Society, Atlantic City, May 21. Dr. H. B. Orton, 24 Commerce Street, Newark, N. J., Secretary.
American Climatological and Clinical Association, White Sulphur Springs, W. Va., May 23-27. Dr. A. K. Stone, Auburn Street, Framingham Center, Mass., Secretary.
American Gynecological Society, Hot Springs, Virginia, May 23-25. Dr. F. E. Keene, Medical Arts Building, Philadelphia, Secretary.
American Heart Association, Washington, D. C., May 17. Dr. Haven Emerson, 370 Seventh Avenue, New York, Secretary.
American Laryngological Association, Atlantic City, May 23-25. Dr. G. M. Coates, 1721 Pine Street, Philadelphia, Secretary.
American Laryngological, Rhinological and Otological Society, Atlantic City, May 26-28. Dr. R. L. Loughran, 33 East 63d Street, New York, Secretary.
American Neurological Association, Atlantic City, May 24-26. Dr. H. A. Riley, 870 Madison Avenue, New York, Secretary.
American Ophthalmological Society, Quebec, Canada, June 27-29. Dr. Emory Hill, Professional Building, Richmond, Va., Secretary.
American Psychiatric Association, Cincinnati, May 31. Dr. E. D. Bond, 4401 Market Street, Philadelphia, Secretary.
American Psychopathological Association, Cincinnati, June 3. Dr. M. W. Peck, 520 Commonwealth Avenue, Boston, Secretary.
American Radium Society, Washington, D. C., May 16-17. Dr. E. C. Ernst, 412 Humboldt Building, St. Louis, Secretary.
American Society of Clinical Pathologists, Washington, D. C., May 13-16. Dr. Ward T. Burdick, Children's Hospital, Denver, Secretary.
American Therapeutic Society, Washington, D. C., May 14-16. Dr. W. J. Mallory, 1720 Connecticut Ave., N. W., Washington, D. C., Secretary.
American Urological Association, Baltimore, May 23-25. Dr. H. G. Hamer, 723 Hume-Mansur Building, Indianapolis, Secretary.
Associated Anesthetists of the United States and Canada, Washington, D. C., May 16-17. Dr. F. H. McMechan, Avon Lake, Ohio, Secretary.
Connecticut State Medical Society, Hartford, May 25-26. Dr. C. W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.
Illinois State Medical Society, Moline, May 31-June 2. Dr. H. M. Camp, Lahl Building, Monmouth, Secretary.
Maine Medical Association, Portland, June 13-15. Dr. B. L. Bryant, 265 Hammond Street, Bangor, Secretary.
Massachusetts Medical Society, Boston, June 6-8. Dr. W. L. Burrage, 182 Walnut Street, Brookline, Secretary.
Medical Library Association, Washington, D. C., May 16-17. Miss Sue Biethan, General Library, University of Michigan, Ann Arbor, Sec'y.
Medical Women's National Association, Washington, D. C., May 15-17. Dr. Maud Parker, Medical Dental Building, Seattle, Secretary.
Michigan State Medical Society, Mackinac Island, June 14-17. Dr. F. C. Warnshuis, Grand Rapids National Bank Bldg., Grand Rapids, Sec'y.
Minnesota State Medical Association, Duluth, June 30-July 2. Dr. E. A. Meyerding, 11 West Summit Avenue, St. Paul, Secretary.
National Association for the Study of Epilepsy, Cincinnati, May 30-31. Dr. A. L. Shaw, 108B Olbiston Building, Utica, N. Y., Secretary.
National Tuberculosis Association, Indianapolis, May 23-26. Dr. G. M. Kober, 1819 Q Street, N.W., Washington, D. C., Secretary.
New Hampshire Medical Society, Portsmouth, June 22-23. Dr. D. E. Sullivan, 7 North State Street, Concord, Secretary.
New Jersey, Medical Society of, Atlantic City, June 9-11. Dr. J. B. Morrison, 66 Milford Avenue, Newark, Secretary.
North Dakota State Medical Association, Grand Forks, June 1-2. Dr. J. G. Lamont, San Haven, Acting Secretary.
Rhode Island Medical Society, Providence, June 2. Dr. J. W. Leech, 369 Broad Street, Providence, Secretary.
West Virginia State Medical Association, White Sulphur Springs, June 21-23. Mr. Joe W. Savage, 303 Professional Building, Charleston, Executive Secretary.
Wyoming State Medical Society, Cheyenne, June 27-29. Dr. Earl Whedon, Sheridan, Secretary.

TENNESSEE STATE MEDICAL ASSOCIATION

Ninety-Fourth Annual Session, held, April 12-14, 1927, at Chattanooga

The President, DR. BATTLE MALONE, Memphis, in the Chair

The Decline of Prestige in the Medical Profession

DR. E. R. ZEMP, Knoxville: The medical profession is losing caste and it will be only a few years before organized medicine is fighting for its very existence. In a short time our profession will be degraded into a communistic and socialistic state. Medicine is drifting into lay control. This is partly our own fault and partly the fault of the tendencies of the times. We are being annoyed and bound by obnoxious laws which take away our rights and stultify our judgment. As a result of these various influences, we have the Harrison Narcotic Act, the Sheppard-Towner law and the Volstead Act. The Sheppard-Towner law has been a dismal failure from the standpoint of saving mothers and babies, but a wonderful success in furnishing opportunities for graft to professional social workers. The

Supreme Court's interpretation of the Volstead Act implies that a physician must not use his judgment in treating a sick patient but must treat him according to the eighteenth amendment. If the quantity of alcohol to be used by the physician can be limited by law, then why cannot Congress say that a patient should not receive a purgative more than once a week, or that a patient with gonorrheal urethritis should not receive an injection more than once in ten days, and so on, ad nauseam?

The time has passed when we can shut ourselves off from society at large by the wall of aloofness. The physician owes his patients and his community a personal service. Service to humanity should be our prime object rather than service to the individual. Medicine in the future must offer a larger human service if we would retain our prestige and regain that which we have lost. No greater calamity could befall us than to have all medical service under state and federal control. It is time to awaken. In organized medicine lies our only hope of combating the many influences that tend to destroy us. The American Medical Association is a wonderful organization, but its strength depends on the efficiency of the state organizations. The state association is only as strong as the county associations, and the county associations are strong only to the degree that the individual members are efficient. No one should be admitted to membership whose ideals are not higher than personal gain and whose sense of honor can be blunted by avarice. Quality and not quantity should be our policy in the future. We must realize that educating the public in the matters of health is just as much our duty as attending the individual sick. We must teach them the difference between truth, as represented by medicine, and falsehood, as represented by the various cults. We should advertise boldly to the public the value of our wares and reveal to them that we have in our profession men of brains capable and willing to direct all activities pertaining to their health, and that they do not have to spend thousands of dollars for socialistic activities which are merely wonderful opportunities for graft and wastefulness.

Surgical Cure of Gastric and Duodenal Ulcer

DR. W. D. HAGGARD, Nashville: The best method for the surgical cure of gastric and duodenal ulcer is open to question. The rational solution of this problem is that gastro-enterostomy, excision, pyloroplasty and resections each have a proper place which is best suited to the individual surgeon and the individual case. In duodenal ulcer most conservative surgeons of long experience, and certainly the average surgeon, will find that the less radical methods will continue to give satisfactory results, reserving the radical resections to the small group of cases not amenable to the simpler operations. There should be a more uniform method of treatment of gastric and duodenal ulcers based on a solid foundation of physiologic as well as pathologic needs of the individual case.

Progress in the Surgery of Prostatic Obstruction

DR. J. R. CAULK, St. Louis: About 30 per cent of all men past 50 have been shown to possess various degrees of prostatic enlargement. About 60 per cent of my patients were between 60 and 75 years of age; some were under 50, and a few were under 40. Those who received only temporary relief by local treatment were perfectly cured by the punch operation. Patients over 80 years of age are particularly suitable for this type of surgery. Repeated rectal and cystoscopic study is urged in order to interpret properly the type of obstruction. Fifty per cent of the cases of bladder stone have been cured by a combination of litholapaxy and evacuation, plus the punch operation, without being subjected to open surgery. Nerve lesions of the bladder are prominent causes of bladder symptoms. They must be distinguished from lesser obstructions and can be differentiated if one is familiar with the problem. In the majority of 383 operations, the same instrument has been used. The operation is painless and is done entirely by local blocking. Complications have been very few and there have been but seven cases of hemorrhage. Never has bleeding been sufficient to show change of blood pressure or to require suprapubic cystotomy. In four instances, evacuation of clots was necessary. Chills and fever have occurred in seventeen instances in previously infected cases. In no instance has a kidney had to be operated on, and in only one instance has the condition been grave. Epididymitis has occurred in 3 per cent. There has been no sloughing, no incontinence, no evidence of sexual disturbance. The operation has been used with great success in twenty-six cases of carcinoma of the prostate and is recommended highly as a method of restoring urinary function. The operation has been valuable in hastening the closure of suprapubic fistulas. It has also successfully removed the obstruction in five cases in which suprapubic cystotomy, as a first stage, was previously done. In all instances, normal urination was restored. Almost 85 per cent of all of the obstructions on which this operation has been employed have been healed and the patient has remained well. There has been no mortality.

Surgery of Brain Tumors

DR. THOMAS D. MCKINNEY, Nashville: Clinically, we must classify any expanding intracranial lesion as brain tumor, thus including several granulomatous tumors not neoplastic in nature. The incidence of brain tumors is far higher than is generally suspected. From 1 to 2 per cent of autopsies show some form of brain tumor. At the Vanderbilt Hospital, since its opening about eighteen months ago, we have registered twenty-three cases as "brain tumor suspects," this number being about 0.5 per cent of the total admissions. The object to be attained in the treatment of brain tumors is their complete removal. This obviously cannot be accomplished in many cases. Since the type of tumor, its degree of malignancy and its removability cannot be determined before operation, every case is entitled to exploration at the earliest time at which a diagnosis can be made. Exploratory operations may now be performed with such a degree of safety that physicians are no longer justified in standing by and allowing their patients to progress to the late stages with permanent crippling or blindness before insisting on the advantages offered by early exploration.

Treatment of Extensive Burns

DR. MURRAY B. DAVIS, Nashville: The treatment of twelve cases during the last eight months was, with the exception of three old burns, the tannic acid treatment advocated by Davidson. The chief difficulty that I experienced with this method of treatment was that in third degree burns, after the coagulum had formed, infection got in under the crust and the crusts had to be removed. This can be accomplished gradually with compresses wet with surgical solution of chlorinated soda, by softening them with petrolatum gauze, or removal under a light anesthesia. This amounts to late débridement, which is much better than early débridement, for the patient is in much better physical condition. Tannic acid lessens toxemia; it precipitates the toxin in the burned tissue and prevents absorption. There is less pain with this method of treatment than with any other. The almost water-proof covering afforded by the crust prevents loss of body fluids; and if large quantities of fluids are taken the blood does not become concentrated. The care of the patient becomes a much simpler matter, as there are no painful dressings and no weeping wounds. Early skin-grafting is a great aid in the treatment of burns.

Value of Roentgen Ray in Carcinoma of Esophagus

DR. C. H. HEACOCK, Memphis: A roentgenologic examination would prove valuable as a routine requirement preliminary to every esophagoscopic examination. The roentgen ray will indicate a lesion in practically every case of esophageal cancer and definitely establish the diagnosis in the great majority of cases. It is of aid in detecting the existence of such complications as perforation into the trachea or pulmonary metastasis. Under fluoroscopic control, dilations may be done more successfully and intubation tubes or radium applicators be placed more accurately. Roentgenotherapy plus gastrostomy is probably the most generally and most successfully employed method of palliation today.

Cardiospasm, Esophageal Obstruction and Dilatation: Their Treatment

DR. JACK WITHERSPOON, Nashville: Aside from the strictures resulting from the cicatrix of burns, the two main causes of obstruction of the esophagus are cancer and spasm of the muscular sphincter at the cardia—so-called cardiospasm. Of six patients with obstruction of the lower end of the esophagus under observation, four had cardiospasm, one had cancer, and

the fifth is as yet undiagnosed. Treatment of cardiospasm may be approached in several ways. The manner of living must be altered. These patients must be encouraged to avoid excitement and exercise, and to seek pleasant surroundings. They must eat quietly and drink slowly and avoid iced drinks. Such drugs as bromides, atropine, benzyl benzoate and papaverine have a place. Dilation of the constriction usually accomplishes a cure. Cancer of the esophagus may be treated by dilation with the string previously swallowed and in place. Radium and deep roentgen-ray therapy have failed to extend life or give comfort to these patients. Efforts at excision of the cancer have had little success. Usually in cancer it is best to do a gastrostomy early and save the patient the suffering of starvation.

Treatment of Cancer of the Breast

DR. EDWARD T. NEWELL, Chattanooga: The only hope of getting these cases earlier is by education of the public through the church, women's organizations, civic organizations, and more especially the family physician. Each full-time city and county health officer should address all women's organizations in his city and county on the cancer problem at least once each year. The treatment of recent malignancy of the breast is simple, attended with little or no morbidity and no primary mortality, and only in rare cases should there be late mortality. Thousands of cases are cured annually by a combination of surgery (the cautery), radium and deep therapy.

Significance of Uterine Hemorrhage

DR. H. M. TIGERT, Nashville: Abnormal bleeding from the uterus unfortunately does not always receive the attention its seriousness demands. Although occasional cases may defy analysis, in general, reticent pathologic conditions, here as elsewhere, yield to perservering intelligent effort in the form of a careful history, a thorough examination, and proper laboratory aid. The common causes of uterine bleeding may be grouped under five headings: abnormal hemorrhage associated with pregnancy or due to its complications; neoplasms; infections of the upper generative tract and adjacent pelvic structures; static or mechanical causes and hemorrhages due to perversions of the internal secretory glands, chiefly the ovary. To these some might add a sixth group, variously characterized as "idiopathic," "essential" or "functional." Curettage, properly carried out, is not only valuable but essential to many gynecologic diagnoses.

Discharges from Vagina Other Than Bloody

DR. LUCIUS E. BURCH, Nashville: The first step in treating a case of leukorrhea is to discover the source of discharge. A careful history, a painstaking examination, a smear from the cervix, urethra and Bartholin's glands, or a biopsy of the cervix should point out the organ affected, even to the inexperienced. After a diagnosis is made, a cure can usually be effected, provided the source of trouble is not cancerous. My plan of treatment is to clean up the foci of infection and aid nature with protein therapy. If the discharge is due to an eversion, erosion or cystic degeneration resulting from an old laceration, this may easily be cured by linear cauterization. Begin at the internal os and bring the cautery down into the affected area, making four strokes of the cautery from one-fourth to one-half inch apart. If the eversion or erosion is small, the treatment may be carried out in the office without pain and without a general anesthetic. Nature puts up a good resistance to a gonorrheal infection in the tubes, and if the focus of infection in the cervix is eliminated, the pathologic changes in the tubes will in many cases disappear. The absorption of these products may be hastened materially by the injection of protein. I use fat free milk, beginning with a dose of 5 cc., injected into the gluteal region. Three days afterward the dose is increased to 7 cc., and on the third day to 10 cc. This is continued at the same interval until a cure is brought about. I have devised the following operation for clearing up the focus of infection in the cervix: The cervix is exposed and incision is made into the anterior and posterior lip of the cervix to the internal os. The exposed cervical tissues are then packed with a 2 per cent acriflavine solution. This packing is replaced every three days until the wound is closed. A smear is also made every three days. This operation, with careful after-treatment, will effect a cure of the gonorrhea in the cervix. Douches, except as a cleansing agent, are of little use.

Uterine Injuries Accompanying Childbirth

DR. J. P. BAIRD, Dyersburg: It would seem unnecessary to advise a careful inspection and examination immediately following delivery, yet when we come in contact with many cases of pelvic injuries which give a history of no examination, we think it not amiss to call attention to this necessity, which no doubt would be the means of preventing invalidism. A perineal strap which consists of a strip of adhesive plaster, about 3 inches in width and approximately 18 inches long, is a safety device that will make the percentage of nonunion after perineal repairs decidedly less. The hips are drawn together and the strap firmly applied just in front of the gluteal muscles tight enough to relieve all tension on the perineal stitches. The strap is reinforced and narrowed over the perineum to allow room for frequent irrigation and application of sterile dressings to the wound. This relieves strain and tension on the perineal stitches much better than bandaging the knees together.

Sporotrichosis

DR. A. H. LANCASTER, Knoxville: Sporotrichosis is characterized by the formation of multiple abscesses in the skin and subcutaneous tissue, with involvement at times of the muscles, bones, lungs and other organs. The symptomatology is fairly well established. A traumatic lesion that refuses to heal under ordinary treatment with the subsequent development of painless, noninflammatory nodules along the lines of lymphatic drainage should warrant laboratory examination, which consists of culture, preferably from an unruptured nodule. The response to large doses of iodides by mouth, over long periods, is usually sufficient to be regarded as a specific. The administration of iodides should be continued for several weeks after the disappearance of the lesions. Local treatment should be administered in the form of iodine.

Endoherniorrhaphy for Oblique Inguinal Hernia

DR. W. M. MCCABE, Nashville: The operation is called endoherniorrhaphy because of its similarity in technic to Matas' endo-aneurysmorrhaphy. The classic incision is made and the sac is exposed, opened and emptied of its contents. The neck is dissected as high as possible and closed by a purse-string suture from within. The sac is obliterated from the internal ring to its entrance into the scrotum by means of a continuous suture folding its sides together. This suture may be buried by a second suture if necessary. The operation is completed by the Ferguson technic. If the sac is too large, one may reduce its circumference by trimming its edges. The operation lessens the amount of dissection, prevents surgical trauma, and eliminates to a great degree the causes of hematoma and infection. I have performed this operation twice with good results.

Hematuria

DR. PERRY BROMBERG, Nashville: The presence of microscopic blood in the urine demands a properly conducted examination in at least 95 per cent of the cases. The profession has unwittingly fallen into the error of thinking lightly of symptomless or nonpainful hematuria. Such terms as essential or idiopathic hematuria are merely evidence of our inability to make a correct diagnosis. Nearly 50 per cent of all hematurias are due to new growths. Stone will cause nearly 20 per cent, tuberculosis another 12 per cent, and acute infections 10 per cent.

Ureteral Stricture

DR. TOM R. BARRY, Knoxville: A proper appreciation of this lesion by the general practitioner will clear up many otherwise obscure abdominal conditions; will save numerous needless and mutilating operations; will eliminate a large proportion of recurrent pyelitis, pyonephrosis and stone, and will conserve many kidneys. The true cause of many chronically inflamed appendixes is to be found in the ureter. The average general practitioner, if he keeps this condition in mind, can make a tentative diagnosis in most cases, thereby decreasing his otherwise gradually increasing group of so-called neurotics.

(To be continued)

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL in America for a period of three days. No foreign journals are available prior to 1921, nor domestic prior to 1923. Periodicals published by the American Medical Association are not available for lending, but may be supplied on order. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

173: 157-312 (Feb.) 1927

*Ureteral Stricture. G. L. Hunner, Baltimore.—p. 157.
*Coexistent Auricular and Ventricular Tachycardia Due to Digitalis. T. Howard, New York.—p. 165.
*Sickle Cell Anemia in Ohio. H. S. Alden, Cincinnati.—p. 168.
*Essential Hematuria; Relationship to Purpura Hemorrhagica. H. M. Conner and H. C. Bumpus, Jr., Rochester, Minn.—p. 176.
*Relationship of Obesity to Carbohydrate Metabolism. H. J. John, Cleveland.—p. 184.
*Xanthoma Diabeticorum: Unusual Process of Involution. E. Goldstein and J. Harris, New York.—p. 195.
*Diabetic Acidosis with Negative Ferric-Chloride Reaction in Urine. K. E. Appel and D. A. Cooper, Philadelphia.—p. 201.
Hypoglycemia. G. H. Hoxie and G. M. Lisherness, Kansas City.—p. 220.
*Diagnosis of Otitis Media Associated with Pulmonary Tuberculosis. N. Michelson and M. M. Weiss, New York.—p. 228.
*Effect of Bismuth Alone and in Combination with Arsenobenzenes on Wassermann Reaction. C. S. Wright, Philadelphia.—p. 232.
*Serologic Studies of Proteinurias. Results of Precipitin Tests for Specific Human Blood Protein in 100 Cases at Salt Lake County General Hospital. R. M. Tandowsky, Salt Lake City.—p. 241.
*Diagnosis of Tracheobronchial Tuberculosis. F. M. McPhedran, Philadelphia.—p. 245.
*Chronic Infectious Arthritis. R. L. Cecil and B. H. Archer, New York.—p. 258.
*Myositis of Rectus Abdominis Muscles Contrasted with Acute Intra-Abdominal Conditions. R. D. Leas, Cleveland.—p. 270.
Management of Circulation in Myxedema. G. P. Pratt and H. B. Morton, Omaha.—p. 274.
Urticaria. I. Wheal Production Through Internal Channels. A. Walzer and M. Walzer, New York.—p. 279.

Ureteral Stricture.—The discussion by Hunner of the etiology, diagnosis and treatment of ureteral stricture is based on a study of more than 2,500 cases. Careful anamnesis elicits in about 75 per cent of these cases a history of bladder trouble. A large number of chronic gastro-intestinal complaints are traceable to defective urinary drainage. Of the many fruitless abdominal operations done because of symptoms due to ureteral stricture, Hunner says that for supposed appendicitis heads the list. Palpation is a great aid in making a diagnosis.

Double Tachycardia Due to Digitalis.—A brief review of some of the toxic effects of digitalis is presented by Howard, and another case is reported in which there was observed auricular tachycardia, auriculoventricular dissociation and ventricular tachycardia following the administration of large doses of digitalis. Eleven other cases of double tachycardia are collected from the literature. In six of these the patients are known to have received large doses of digitalis. One received only one dose of strophanthin and was probably suffering from coronary thrombosis. The other five may or may not have received drugs of the digitalis class.

Sickle Cell Anemia in Ohio.—The two cases reported by Alden are the first that have been reported from Ohio, although one of the patients was born in Georgia. They agree in every particular with the cases that have been reported previously, and show the familial incidence of the disease. They show very plainly the many points of similarity of the disease to hemolytic jaundice and how the physical signs may lead one to an erroneous diagnosis of congenital or tertiary syphilis, and even an acute appendicitis.

Essential Hematuria and Purpura Hemorrhagica.—As the result of their analysis of twenty-two cases, Connor and Bumpus conclude that there is not enough evidence at hand to prove that essential hematuria is ever localized purpura hemorrhagica or due to a deficiency of blood platelets, but the evidence is rather suggestive that this is true in some cases.

Relationship of Obesity to Carbohydrate Metabolism.—In twelve cases of obesity, in three males and nine females, presented by John, the carbohydrate metabolism was studied by means of a glucose-tolerance test. The overweight in these cases ranged from 29 to 115 per cent. Glycosuria was present in two cases in which diabetes was also present. The fasting blood sugar was normal in eleven cases, among which four were cases of diabetes of varying degrees of severity. Among these twelve cases of obesity, two were definitely cases of diabetes; three were cases of mild diabetes or "prediabetes." It would appear, that the pancreas is to be considered among the glands, the dysfunction of any of which may be responsible for obesity of the endogenous type.

Unusual Involution in Xanthoma Diabeticorum.—Goldstein and Harris describe a case of xanthoma diabeticorum showing a peculiar process of involution not previously mentioned in the literature. This occurred in a patient suffering from diabetes mellitus, to whom insulin was administered in the late stages of the disease. Three types of resolution went on simultaneously with little or no reference to the general condition: (*a*) The lesions on the palms disappeared completely; (*b*) those on the elbows coalesced and left large pigmented patches; (*c*) those on the legs and thigh underwent degenerative changes resulting in extensive scar formation—a process hitherto undescribed.

Diabetes Mellitus with Low Blood Carbon Dioxide and Negative Ferric Chloride Reaction in Urine.—Appel and Cooper analyze the records of five patients with diabetes mellitus, who at some time in the course of this disease presented the unusual combination of a low carbon dioxide content of the plasma with a negative ferric chloride reaction in the urine. As an explanation of an absent ferric chloride reaction in the urine in threatened diabetic coma, in advanced diabetic coma under treatment, in diabetic coma with a low carbon dioxide, and in diabetic coma with considerably increased blood ketones, the authors suggest that it is probably due to temporary renal impairment usually on a basis of dehydration.

Diagnosis of Otitis Media Associated with Pulmonary Tuberculosis.—A confirmatory sign for the diagnosis of otitis media associated with pulmonary tuberculosis is mentioned by Michelson and Weiss. In every instance of otitis media, râles originating in the tuberculous lung, when detected by the examiner orally, were also heard by the diseased ear, and when such oral auscultation was negative, no râles were heard by the patient. This audition of pathologic sounds serves to differentiate otitis media from acoustic nerve involvement.

Effect of Bismuth on Wassermann Reaction.—In this study by Wright, of the action of bismuth as a synergist to neoarsphenamine in all stages of syphilis, 160 cases are reported. In 128 of these cases the bismuth was given after the patient had already received one or several courses of neoarsphenamine, and in some instances a few injections of mercury. Only twenty-six cases out of these 128 (approximately 20 per cent) were Wassermann negative, after an average of eighteen injections of neoarsphenamine and six injections of mercuric salicylate. Of the 102 cases still Wassermann positive, fifty-two (51 per cent) were serologically negative after an average of fifteen injections of 100 mg. each of bismuth, given intramuscularly. Of this number, five cases of latent syphilis, four cases of tertiary syphilis and one case of congenital syphilis reverted again to a positive reaction at a later date. One of the most important facts disclosed by this study is, that of the cases which were serologically negative after treatment with neoarsphenamine and mercury, every one remained persistently negative on the continuation of the treatment with intramuscular injections of bismuth. Administering each week one injection of bismuth intramuscularly and one injection of neoarsphenamine intravenously proved highly successful in the treatment of early syphilis and latent syphilis. In secondary syphilis the cutaneous manifestations disappeared with astonishing rapidity, and the blood Wassermann reactions were reduced from strong positive to negative in an average of six weeks. This negative result has been persistent to date in all cases. In latent syphilis, from

fourteen to eighteen of the cases treated became negative in an average of seven weeks, but four of these were again positive at a later date.

Serologic Studies of Proteinurias.—Blood protein was detected by Tandowsky in 52 per cent of the 100 cases studied. This blood protein can be specifically identified in the urines of the patients tested by the precipitin test. The detection of specific blood protein in the urine by the precipitin test does not parallel the positive chemical protein tests. The presence of blood protein in the urine is not characteristic of any particular disease or type of case. The most marked reactions found in this series were in cases of tuberculosis of the kidney, pyelitis, pregnancy and cancer of the uterus. At least some of the cases of proteinuria, with or without renal pathologic changes, can be accounted for by the presence of blood protein in the urine.

Diagnosis of Tracheobronchial Tuberculosis.—McPhedran reports the results of roentgenographing 400 excised lungs, and then comparing the specimen, area by area, with the roentgenogram. Symptom complexes characteristic of tracheobronchial tuberculosis have not been found. Intrapulmonary glands must contain calcium to be recorded roentgenographically. It appears that reabsorption of calcified caseous necrosis within lymph nodes does not occur.

Chronic Infectious Arthritis.—Two hundred consecutive cases of infectious arthritis were studied by Cecil and Archer as to their etiology. The tonsils and teeth were the commonest foci of infection. In young people infected tonsils are responsible for a high percentage of the cases. In older patients infected teeth are more apt to be the etiologic factor.

Myositis of Rectus Abdominis.—Two cases of myositis of the abdominal muscles are reported by Leas. The literature on rheumatic myositis is reviewed. The points in differential diagnosis between myositis of the abdominal muscles and intra-abdominal conditions are contrasted. The probable cause of pain in myositis and perimyositis is discussed.

American Journal of Surgery, New York

2: 101-208 (Feb.) 1927

*Deep Roentgen-Ray and Radium Therapy in Malignant Disease of Genito-Urinary Tract. H. H. Young and C. A. Waters, Baltimore.—p. 101.
Diathermy in Venereology. A. J. Greenberger and M. E. Greenberger, New York.—p. 126.
Paraffinomas. C. A. McWilliams, New York.—p. 129.
Diverticulitis of Colon. M. Ballin, Detroit.—p. 130.
*Diverticulitis of Sigmoid Associated with Tuberculosis. R. Mailer, Rochester, Minn.—p. 142.
*Diagnosis in Acute Mechanical Intestinal Obstruction. H. B. Eisberg, New York.—p. 147.
*High Intestinal Obstruction Caused by Primary Carcinoma of Proximal Jejunum. W. R. Morrison, Boston.—p. 154.
Huge Fibroma of Mesentery. Resection of Six Feet of Jejunum: Recovery. J. F. Baldwin, Columbus, Ohio.—p. 160.
Automatic Injector for Local Anesthesia. W. O. Sweek, Phoenix, Ariz.—p. 162.
*Acute Poliomyelitis Occurring in Course of Treatment of Fracture of Femur in Child of Two. I. Davis and A. Yoffa, New York.—p. 166.

Deep Radiotherapy in Genito-Urinary Tract Tumors.—According to Young and Waters the best treatment for superficial papillary carcinoma, whether localized or extensive, is a combination of deep roentgen-ray therapy with radium applied directly to the surface of the growth. Radium alone has been very successful in handling this type of case, but frequently so much irradiation is required that the destruction of the tumor is followed by a severe radium ulceration. In the author's experience, the results obtained by the combination of deep roentgen irradiation with radium are better when the tumor has received from 600 to 800 milligram hours of radium before the roentgen-ray treatment is started.

Diverticulitis of Sigmoid Associated with Tuberculosis.—Mailer asserts that he has found only one case similar to his two on record. Both diverticulitis of the colon and hyperplastic tuberculosis, especially of the subserous type, are capable of producing almost identical pathologic pictures. A differential diagnosis of these conditions is not possible until after operation, nor is it at all necessary, for the treatment is the same in both instances.

Diagnosis of Intestinal Obstruction.—Eisberg analyzes 127 clinical cases, and reports his observations of animal experiments. Special stress is placed on the diagnosis.

Primary Carcinoma of Jejunum Causes Obstruction.—Morrison reports three cases. He says that the diagnosis can always be made by means of early and thorough serial barium roentgenographic and fluoroscopic examinations.

Relation of Acute Poliomyelitis and Fracture of Femur.—The case reported by Davis and Yoffa illustrates the difficult situation which an attending surgeon might need to face should poliomyelitis occur during the treatment of a fracture. Only two similar cases are on record.

Atlantic Medical Journal, Harrisburg, Pa.

30: 337-402 (March) 1927

Tularemia. E. Francis, Washington, D. C.—p. 337.
Periodic Health Examinations. Responsibility for Life Extension. W. F. Donaldson, Pittsburgh.—p. 344.
Id. Technic. O. H. Petty, Philadelphia.—p. 346.
Id. Opportune Recommendations for Examinee. L. Litchfield, Pittsburgh.—p. 347.
Encephalitis; Effect on Behavior of Children. D. H. Fuller, Philadelphia.—p. 350.
*Diagnosis of Postencephalitic Conditions. E. A. Strecker, Philadelphia.—p. 352.
Encephalitis and Medical Profession. E. D. Bond, Philadelphia.—p. 353.
Acute Perforated Gastric Ulcer; Treatment. L. G. Cole, Blossburg, Pa.—p. 356.
*Inoperable Urethrovesicovaginal Fistula Cured by Ureteral Transplantation. C. N. Haines. Sayre, Pa.—p. 357.
*Digitalis and Quinidine in Treatment of Auricular Flutter. T. M. McMillan, Philadelphia.—p. 359.
Subacute Bacterial Endocarditis. E. Weiss, Philadelphia.—p. 361.
Importance of Persistent Digitalis Therapy in Auricular Fibrillation. W. D. Stroud, Philadelphia.—p. 362.
Typical Case of Gout. A. A. Stevens, Philadelphia.—p. 363.

Diagnosis of Postencephalitis.—The presenting signs and symptoms in thirty children who suffered from attacks of epidemic encephalitis are reviewed by Strecker. Apparently sleepiness, diplopia, mild fever, influenzal "cold" and headache are fairly constant early and acute symptoms in the epidemic encephalitis of children. Behavior disorders conditioned by encephalitis in children are extremely common, and probably occur in more than 80 per cent of the cases. In the majority of instances the malbehavior appears very soon after the acute phase of the illness, and is probably an expression of continued low-grade brain disease. No clear relationship between the type and severity of the acute symptoms and the subsequent behavior has been established. Insignificant early signs may be and usually are followed by severe behavior disorder. Absence of late neurologic evidence of brain injury does not preclude behavior deviations. In this series, the behavior was much worse in those children who failed to manifest late neurologic signs than it was in those who suffered severely; i. e., those with the parkinsonian syndrome. It is suggested that perhaps, in the latter group, the brunt of the inflammatory reaction falls on brain structure whose function is automatic and motor, and not related to behavior.

Transplantation of Ureters into Colon.—Haines reports a case of inoperable urethrovesicovaginal fistula that was cured by simultaneous double ureteral transplantation into the pelvic colon by the Coffey technic. This patient has been observed over a period of eleven months since operation. She looks well, has gained weight, and has perfect control of the urine. She empties the rectum once at night, and is able to retain urine from two to three hours during the day. From the standpoint of kidney function she is normal. Several tests for blood urea have been done, the highest amount found being 35.7 mg. per hundred cubic centimeters of blood one week following operation. Since then it has fluctuated between 20 and 26.

Treatment of Auricular Flutter.—Out of 7,000 electrocardiograms taken in the last five years in the Philadelphia General Hospital, there were thirty-nine cases of auricular flutter. In twenty-five of these thirty-nine cases, McMillan had charge of the treatment. In these twenty-five cases, twenty patients have had normal rhythm restored—eighteen by the use of digitalis and two by the use of quinidine. From

his experience, McMillan believes that digitalis is far the more desirable drug. He has used quinidine in six cases, and has restored normal rhythm in only three of these. However, in cases in which digitalis has failed, it is always wise to try quinidine.

Boston Medical and Surgical Journal

196: 381-420 (March 10) 1927

*Obscure Lesions of Shoulder; Rupture of Supraspinatus Tendon. E. A. Codman, Boston.—p. 381.
Hypersensitiveness. H. Zinsser, Boston.—p. 387.
Cactina Pillets. C. B. Leech, Fall River, Mass.—p. 394.
Infant Feeding. K. D. Blackfan and J. Johnston, Boston.—p. 395.
Variations in Diastase of Blood of Infants. G. Guest.—p. 397.
Obstetrical Injury of Spinal Cord. B. Crothers, Boston.—p. 397.
Early Phrenologic Societies and Their Journals. J. F. Fulton, Boston.—p. 398.
Spurzheim Collection of Phrenologic Casts. W. P. Coues, Boston.—p. 400.

Rupture of Supraspinatus Tendon.—Codman advocates early exploratory incision in cases of severe shoulder injuries in which the roentgenograms are negative. He discusses especially rupture of the supraspinatus tendon to which he attributes most cases of traumatic bursitis. If a patient has a severe wrench of the shoulder, and within a day or two can endure passive abduction but cannot perform active abduction, and the roentgen-ray examination is negative, Codman says exploration should be done. It will save the patient many months of disability. Codman describes a mode of approach to the joint that he has devised.

Canadian Medical Association Journal, Montreal

17: 147-276 Feb.) 1927

Empyema. J. G. MacDougall, Halifax, N. S.—p. 147.
Relations of Medical Profession to Hospitals. J. McKenty, Winnipeg, Man.—p. 151.
Cancer Problem. J. Miller, Kingston, Ont.—p. 157.
Growth of Specialty of Anesthesia in Canada. S. Johnston, Toronto.—p. 163.
Prognosis. E. L. Pope, Edmonton, Alta.—p. 166.
Cholesterol Content of Blood Plasma as Index of Progress in Insulin Treated Diabetics. I. M. Rabinowitch, Montreal.—p. 171.
Treatment of Diabetes Mellitus Through Office Practice. E. H. Mason, Montreal.—p. 175.
*Relation of Kidney Activity in Diabetes Insipidus to Theories of Urine Excretion. A. B. Illievitz, Montreal.—p. 180.
Significance of Genito-Urinary Pain. J. C. McClelland, Toronto.—p. 185.
*Analysis of 150 Deaths from Diphtheria. B. Hannah and L. M. Murray, Toronto.—p. 187.
Treatment and Causes of Convulsions in Infants and Children. G. Chown, Winnipeg, Man.—p. 191.
Diabetic Lipemia Retinalis. Case. L. A. Chase, Regina, Sask.—p. 197.
Case of Placenta Accreta. D. S. Forster, Montreal.—p. 204.
Sex Factors in Very Young Child. A. B. Chandler, Montreal.—p. 207.
Electrocoagulation as Adjunct in Tonsil Dissections. W. H. Taylor, St. Mary's, Ont.—p. 211.
Hereditary Diabetes Insipidus. L. A. Chase, Regina, Sask.—p. 212.
Diabetes in Child Three Years of Age. R. P. Smith, Hamilton, Ont.—p. 214.
Lung Stones (Pneumoliths) Possibly Associated with Tuberculosis. F. H. Pratten, London, Ont.—p. 216.
Dicephalous Fetus. A. O. Rose and C. Rose, Hafford, Sask.—p. 217.
Case of Hypsiloid (Dicephalus Monosomus). H. Morison, Dryden, Ont.—p. 217.
Delivery of Syncephalus Thoracopagus. R. Mitchell, Winnipeg, Man.—p. 218.
Echinococcus Cyst of Omentum. R. P. Reynolds and J. A. Ferguson, London, Ont.—p. 218.
Some Functions of Spleen. E. S. Mills, Montreal.—p. 221.
History of Medical Faculty of University of Montreal. L. D. Mignault, Montreal.—p. 242.
History of Pernicious Anemia. H. B. Cornell, Belleville, Ont.—p. 245.
Regarding Transfusion and Intravenous Injections. W. J. Egan, Sydney, N. S.—p. 250.

Nature of Polyuria in Diabetes Insipidus.—In the study of a case of diabetes insipidus and polyuria experimentally induced in normal persons, an attempt was made by Illievitz to determine the nature of the polyuria, to correlate the results and to explain them on the basis of the various theories of renal function. His observations favor the view of the secretion theory. Evidence clinically or from microscopic urinalyses does not suggest that the polyuria of diabetes insipidus might be due to anatomic changes in the kidney.

Diphtheria Death Rate.—This investigation by Hannah and Murray demonstrates that the death rate from diphtheria in the hospital is too high; that this condition is not due to hospital treatment but rather to certain definite circumstances arising outside the institution.

Indiana State Medical Association Journal, Ft. Wayne

20: 89-128 (March) 1927

Arterial Hypertension. R. H. Major, Kansas City, Kan.—p. 89.
Sinus Infection: Ocular Manifestations. B. J. Larkin, Indianapolis.—p. 94.
Mediastinal Syphilis. F. E. Sayers, Terre Haute.—p. 102.
Radium Therapy. C. S. Oakman, Muncie.—p. 106.
Quartz Light Therapy in Ear, Nose and Throat Conditions. E. N. Kime, Indianapolis.—p. 111.

Johns Hopkins Hospital Bulletin, Baltimore

40: 117-199 (March) 1927

Problems of Relation of Muscle and Nerve. L. H. Weed, Baltimore.—p. 117.
Uranium Nitrate Intoxications in Pregnant Dogs. W. de B. MacNider, S. T. and S. C. Helms, Chapel Hills, N. C.—p. 145.
*Carcinoma of Cervix Uteri. K. H. Martzloff, Baltimore.—p. 160.

Carcinoma of Cervix Uteri.—This study by Martzloff is based on 145 cases of unmistakable carcinoma of the cervix uteri, in patients who were operated on between 1893 and 1920. In every case a panhysterectomy, with the removal of a portion of the vagina and a wide parametrial dissection, was performed. It seems possible, on the basis of this study, to render a postoperative prognosis in carcinoma of the cervix uteri, provided the tissue removed at operation is studied with sufficient care, and the operation is performed by a surgeon adequately trained in the surgery of the female pelvis. In these circumstances, a prognosis may be ventured, with as rational a basis for its promulgation as is possible for cancer of the lip and of the breast. However, in the case of the adenocarcinoma, the conclusions must be applied with caution, because of the small number of patients available for study.

Journal of Experimental Medicine, Baltimore

45: 191-397 (Feb.) 1927

Method for Repeatedly Sampling Blood of Portal Vein in Healthy Animals. M. A. Blankenhorn, Cleveland.—p. 191.
*Absorption of Bile Pigments from Intestine. M. A. Blankenhorn, Cleveland.—p. 195.
*Lymph and Blood Vessels of Rabbit Trachea. B. C. Seegal and D. Seegal, Boston.—p. 203.
*Experimental Epidemiology of Tuberculosis. D. Perla, Philadelphia.—p. 209.
*Specific Flocculation Reaction Occurring Between Alcoholic Extracts of Pneumococci and Antipneumococcus Serum. C. W. Jungeblut, Albany, N. Y.—p. 227.
*Gye's Cancer Theory. J. H. Mueller, Boston.—p. 243.
*Diet and Tissue Growth. IV. A. H. Smith and T. S. Moise, New Haven, Conn.—p. 263.
*Filtrable Yeast-Like Micro-Organism (Schizosaccharomyces Filtrans, N. Sp.). P. A. Lewis, Princeton, N. J.—p. 277.
Histologic Expression of Natural Resistance of Rabbits to Infection with Human and Bovine Type Tubercle Bacilli. P. A. Lewis and E. S. Sanderson, Princeton, N. J.—p. 291.
Effect of Age on Serum Lipoids and Proteins. L. E. Baker and A. Carrel, New York.—p. 305.
*Bactericidal Property of Cow's Milk. F. S. Jones and R. B. Little, Princeton, N. J.—p. 319.
Relation Between Invasion of Digestive Tract by Paratyphoid Bacilli and Disease. T. Smith and H. A. M. Tibbetts, Princeton, N. J.—p. 337.
*Paratyphoid Infection in Guinea-Pigs. I. J. B. Nelson and T. Smith, Princeton, N. J.—p. 353.
*Id. II. Factors Involved in Transition from Epidemic to Endemic Phase. T. Smith and J. B. Nelson, Princeton, N. J.—p. 365.
*Biologic Characters of Mucoid Variant of B. Paratyphoid from Guinea-Pigs. J. B. Nelson, Princeton, N. J.—p. 379.
Vibrios from Calves; Serologic Relation to Vibrio Fetus. T. Smith and M. L. Orcutt, Princeton, N. J.—p. 391.

Absorption of Bile from Intestine.—Blankenhorn asserts that bilirubin as such is not reabsorbed from the intestine by way of the portal vein in healthy animals. Bilirubin may be absorbed from the intestine by the lymphatics but only in minute amounts. Urobilin is reabsorbed from the intestine by way of the portal vein and by way of the lymphatics.

Lymph and Blood Vessels of Trachea.—Winternitz, Smith and Robinson have offered as experimental evidence in support of the lymphatic path of infection in lobar pneumonia a series of injection experiments of the rabbit's tracheal submucosa. What those investigators supposed to be lymphatics

are shown by the Seegals to be an unusual type of venous supply consisting of short, wide and richly anastomosing vascular channels. There is little homology between the structure and distribution of the lymph and blood vessels in the human and rabbit trachea. Injections of pneumococci by the tracheal route to produce lobar pneumonia in the rabbit include an intravenous administration of these organisms when the mucosa is pierced or injured.

Epidemiology of Tuberculosis.—The frequency of the occurrence of spontaneous tuberculosis and the factors in its spread are the points discussed by Perla. He says that normal guinea-pigs exposed to tuberculous cage mates, infected intraperitoneally and without cutaneous ulceration, readily contract spontaneous tuberculosis. The incidence of spontaneous tuberculosis increases with the intensity and with the duration of exposure. Spontaneous tuberculosis acquired from infected cage mates has, with few exceptions, the characters of an infection which has entered by way of the digestive tract, disease of mesenteric and cervical lymph nodes being conspicuous. Guinea-pigs exposed to tuberculous animals in the same room but not in the same cage may acquire tuberculosis which has the characters of a bronchiogenic infection associated with lesions of the lungs and tracheobronchial lymph nodes.

Flocculation Reaction Between Pneumococci and Antipneumococcus Serum.—A flocculation reaction is described by Jungeblut which occurs between alcoholic extracts of pneumococci and antipneumococcus serum. The reaction appears to be species-specific. It is not strictly type-specific, as slight or moderate cross reactions occurred between type I serums and type II and type III extracts. The flocculating power of the serum from five horses undergoing immunization with pneumococcus, type I, did not develop to any extent before the end of the fourth or fifth month. In the case of two of these horses in which it was impossible to carry out parallel tests on a larger number of subsequent bleedings until the end of immunization, some relationship was suggested between the flocculating power and the protective titer, as ascertained by the routine method of standardization in mice.

Guy's Cancer Theory.—In a fairly large series of experiments, extending over a period of twelve months, Mueller has been unable to duplicate either the results of Gye or the modified confirmations of his work by Murphy and Flu. He shows that uncontrollable local and individual variations may produce results in occasional chicks which simulate satisfactory experiments, but, when viewed as a whole, mean nothing. Because of the conflicting nature of results obtained by those who have undertaken to repeat the work, and on account of the difficulty of controlling all factors involved, Mueller does not feel that it may be stated definitely that Gye's theory of the cause of cancer is wrong. On the other hand, the theory apparently needs more evidence in its support if it is to receive further serious consideration. It is suggested that future publications should include sufficient consecutive protocols to make the trend of the experiments obvious to the reader.

Diet and Tissue Growth.—The rate of compensatory enlargement of the remaining kidney after unilateral nephrectomy has been studied by Smith and Moise in adult rats fed diets containing various concentrations of protein. A curve of enlargement on "standard" food (18 per cent casein) shows a rapid initial increase with subsequent slower rise to the one hundred and twentieth day. There is no significant difference between the value at 120 days (44 per cent) and that at 150 days (48 per cent). A similar series with diets containing increasing concentrations of protein, but with a constant time interval (twenty-one days) after nephrectomy, shows an increase in the degree of enlargement directly proportional to the protein content of the food. The values vary from 24 per cent with the 18 per cent casein ration to 77 per cent with the 90 per cent casein diet. A third series shows the enlargement on "high protein" food (85 per cent casein). The values vary from 49 per cent at three days to 121 per cent at 150 days. There is no significant difference between the value at 120 days (123 per cent) and that at 150 days (121 per cent). Determinations of total solids on the experimental kidney show that the recorded enlargement involves mainly an actual tissue increase.

Schizosaccharomyces Filtrans. — A micro-organism is described by Lewis which was cultivated in the course of experiments with the virus of hog cholera. It is pleomorphic in extreme degree. The culture can be completely regenerated after filtration through some Berkefeld N filters, although these retain *Bacillus abortus* (Bang). While cognizance is taken of possible alternatives, the micro-organism is provisionally classified with the yeasts and in view of its filterability is named *Schizosaccharomyces filtrans.* The culture is not pathogenic for swine.

Bactericidal Property of Cows' Milk.—The bactericidal activity of fresh raw milk from a number of cows has been tested by Jones and Little with the nonhemolytic mastitis streptococcus. By using this organism and by other means, they were able to rule out the action of agglutinin. The milk of all cows examined inhibited the growth of the streptococcus for definite periods. The length of the inhibition period varied; the milk from some cows prevented growth for eight hours, that of others for only four or six hours. The inhibitory action may be as strong in the milk of a young cow in its first lactation period as in that of an old cow known to be resistant to udder infection. It is possible to cause absorption of the streptococcus inhibitory substance by first inoculating the milk with *Bacillus bovisepticus.* The authors were unable to show that the substance was increased by artificial immunization of cows with the streptococcus. Whey obtained by the action of sterile rennet solution inhibited the growth of the streptococcus to about the same extent as the milk from which it was obtained. The authors infer that the substance originates in the udder, since it differs from blood alexin in its resistance to heat; is not increased in the whey although the blood proteins are more concentrated, and is not increased in the milk when the cows are artificially immunized or repeatedly exposed to natural infection.

Pathologic Conditions of Outbreak of Paratyphoid in Animals.—The course of a natural outbreak of paratyphoid in a normal guinea-pig population is outlined by Nelson and Smith. A description is given of the gross pathologic changes of the disease. The bacteriology of the causal organism is discussed with particular reference to its agglutinative affinities.

Paratyphoid: Transition from Epidemic to Endemic Phase.—Factors bearing on the maintenance of paratyphoid in an endemic state are discussed by Smith and Nelson. The hypothesis is tentatively presented that the transition from an epidemic to an endemic phase is due to a combination of the weeding out of individuals of low natural resistance with a gradual adjustment of the invading organism to the population on a lowered level of virulence.

Mucoid Variants of Paratyphoid Bacillus.—The biologic characters of two mucoid variants of *Bacillus paratyphosus* isolated from guinea-pigs have been studied by Nelson, and compared with those of the normal type. The possible origin of the mucoid type is discussed.

Journal of Laboratory and Clinical Medicine, St. Louis

12: 415-528 (Feb.) 1927

*Blood Groups in General Paralysis. Agglutinin-Agglutinogen Formula. H. A. Bunker, Jr., and S. Meyers, New York.—p. 415.
*Mesenteric Enterocystoma. W. Hueper, Chicago.—p. 427.
*Use of Cholin in Paralytic Ileus. H. Hartman and W. Dock, San Francisco.—p. 430.
*Sugar in Blood. Accuracy of Kramer-Gittleman Modification of Folin and Wu Method. E. R. Orent, New York.—p. 432.
Normal Blood Counts in Pigeons. F. De Eds, San Francisco.—p. 437.
*Pigment in Addison's Disease. C. L. Spohr and R. A. Moore, Columbus, Ohio.—p. 438.
Experimental Bacillus Pyocyaneus Keratitis. E. Jackson and F. W. Hartman, Detroit.—p. 442.
*Intestinal Amebiasis. J. M. Feder, Grand Junction, Colo.—p. 451.
*Photographic Method of Counting Blood Cells. A. H. Sanford, Rochester, Minn.—p. 456.
*Ochronosis. E. Scott and R. A. Moore, Columbus, Ohio.—p. 461.
*Clinical Results with Pathogen. O. Lowy, Newark, N. J.—p. 465.
*Treatment of Acid Intoxication with Buffer Solutions. F. A. Hecker, Ottumwa, Iowa.—p. 467.

Diabetic Gangrene Treated by Insulin. H. Gray, Santa Barbara, Calif. —p. 472.
Stability of Carbohydrate Mediums. L. D. Henry and M. S. Marshall, Lansing, Mich.—p. 474.
*Microscopic Slide Precipitation Test for Syphilis. B. S. Kline and A. M. Young, Cleveland.—p. 477.
*Leukocytic Indices of Body Resistance. W. C. Jones and F. L. Crocker, Birmingham, Ala.—p. 482.
Difficulties and Value of Frozen Section Methods. L. A. Turley, Norman, Okla.—p. 492.

Blood Groups in General Paralysis.—The agglutinin-agglutinogen formula was studied by Bunker and Meyers in ninety-one cases of general paralysis. The incidence of the traditional four iso-agglutinin groups was found to be the same in these cases as in the population at large. An extra agglutinogen (*c*) in the corpuscles of "group II" individuals, described by Guthrie and others, was found in the same proportion of "group II" bloods (about 80 per cent) as reported by others. An extra agglutinin (*D*) in the serum of "group II" individuals, first described by Guthrie, was found in thirty-two out of thirty-seven members of "group II" (86 per cent). These patients, having general paralysis, received treatment only in the form of malaria or tryparsamide or both, and showed little tendency to definite modification or negativity of the Wassermann reaction in the blood; all but two of the twenty patients who exhibited such a tendency were members either of group II or group IV (Moss), eleven of the latter eighteen belonging to group II.

Mesenteric Enterocystoma.—Hueper reports the case of a boy, aged 5, who presented symptoms which led to a diagnosis of acute appendicitis and mesenteric cyst. A cyst the size of a hen's egg, located between the two membranes of the mesentery 2½ inches from the ileocecal valve adjacent to, but not connected with, the ileum, was enucleated at operation. Appendectomy was also performed.

Use of Cholin in Paralytic Ileus.—Hartman and Dock report a case of paralytic ileus following a hysterectomy. The patient was given 0.6 Gm. of cholin hydrochloride intravenously in 250 cc. of physiologic sodium chloride solution, over a period of twenty minutes. Immediately after the injection had been completed, peristalsis was heard, and in about five minutes the patient passed a large quantity of gas and liquid feces. There were no cramps. The patient died in twelve hours. At necropsy a partial obstruction without gangrene was found high in the jejunum, which had herniated into the abdominal wound.

Sugar in Blood.—Orent made a study of the accuracy of the Kramer-Gittleman modification of the method of Folin and Wu. He says that the average reproducibility of the Kramer-Gittleman method is about 1 per cent; that of the Folin-Wu is also about 1 per cent. The values obtained by the Kramer-Gittleman technic agree with those obtained by the Folin-Wu technic to within 2 per cent. This is only slightly greater than the degree of reproducibility of either method.

Pigment in Addison's Disease.—A typical case of Addison's disease, with pigmentation of the skin, active tubercular caseation of the right suprarenal and old tubercular fibrosis of the left suprarenal, and heavy black pigmentation of the entire lymphatic system of the abdomen and chest, is reported on by Spohr and Moore. The pigment was not an anthracosis. Microchemical reactions showed that the pigment was iron free and was bleached by sunlight and hydrogen peroxide. The evidence seems to indicate that this pigment is a melanin, and the absence of any other explainable cause of the melanosis than the Addison's disease lead the authors to believe that there was more than a casual relationship between the two.

Intestinal Amebiasis.—In Feder's opinion, intestinal amebiasis is no longer to be considered as a purely tropical disease, but rather one of a cosmopolitan character. There is a carrier problem, and it is a vital factor in the spread of the disease. Every case of vague gastro-intestinal upset should be looked on with suspicion.

Photographic Method of Counting Blood Cells.—Sanford describes the apparatus he uses for making photographic plates and prints of blood films, and his method of counting the blood cells by means of a veeder magnetic counter and a specially devised contact counter.

Ochronosis.—A case of ochronosis in which the known pigmentation occurred only in three of the right costal cartilages is reported by Scott and Moore. The condition was associated with a chronic streptococcus infection and arthritis, subsequent to amputation of the breast for malignant disease.

Results with Pathogen.—Lowy examined five cases of chronic arthritis without deformity by means of the pathogen method, and found *Streptococcus viridans* in four cases and a nonhemolytic streptococcus in one case. These organisms were grown in pure culture. One portion of the growth was utilized for the preparation of an antigen and the other portion reinoculated in the patient's own blood. Complement fixations were positive in varying degrees with all antigens. The pathogen showed growths in all instances. When the complement fixation test was applied by using antigen one, against blood two, and so forth, three of the strains gave positive reactions. Ten cases of subacute and chronic arthritis and three cases of chronic bronchial asthma, were treated. Four patients with subacute arthritis were completely relieved of their symptoms; two were improved, and four were unimproved; of the asthma cases, one was improved, and two were unimproved.

Treatment of Acid Intoxications with Buffer Solutions.—Hecker has treated 105 cases of all kinds with buffer solutions to determine if possible their value in all pathologic conditions which are accompanied by or followed by acid intoxication. All of the patients were desperately ill. Of 105 cases treated, sixty-five recovered and thirty-six died; four showed little or no improvement from the treatment but recovered. Among the diseases mentioned are diabetes, erysipelas, eclampsia, pneumonia, nephritis and puerperal sepsis.

Slide Precipitation Test for Syphilis.—The microscopic slide precipitation test for syphilis has been further simplified and improved. As now recommended, with Kahn's antigen dilution described by Kline and Young, it does not require incubation or a humidor cover, and may be done in a room regardless of its humidity. The test is said to be as specific as the Kahn and Wassermann tests, and has the advantage over those methods in that it is much simpler and requires much less apparatus and serum.

Leukocyte Index of Body Resistance.—A lymphocytic index of resistance has been worked out by Jones and Crocker by using the total white count and the percentage of lymphocytes. This index parallels Walker's very closely, but averages about six points higher.

Kansas Medical Society Journal, Topeka

27: 73-108 (March) 1927

Prevention and Treatment of Smallpox, Diphtheria and Scarlet Fever. L. B. Gloyne, Kansas City.—p. 73.
Tularemia. W. G. Gillett, Wichita.—p. 77.
*Treatment of Appendicitis. E. M. Miers, Kansas City.—p. 80.
Epilepsy and Ductless Glands. V. E. Lawrence, Ottawa.—p. 81.

Treatment of Appendicitis.—In thirty-one cases of suppurative appendicitis, Miers has removed the appendix and inserted a catheter into the bowel through the stump of the appendix, bringing it through the abdomen and thus immediately establishing an artificial opening or a handmade fistula to allow the accumulated flatus and liquid bowel content to escape. A catheter as large as the stump of the appendix will admit is threaded through into the bowel, fastened by two small catgut sutures and a pursestring suture about the stump, and then is inverted in much the same manner as a gallbladder drainage tube. The tube usually comes away on the sixth or seventh day and the fistula closes promptly.

Maine Medical Association Journal, Portland

18: 21-37 (Feb.) 1927

Secondary Factors in Production of Uterine Sepsis. L. H. Ford, Bangor.—p. 21.
Placenta Praevia. R. L. Reynolds, Waterville.—p. 23.
Indications for Abdominal Cesarean Section. H. W. Garcelon, Auburn. —p. 26.

Michigan State Med. Society Journal, Grand Rapids

26: 145-222 (March) 1927

*Thymic Paroxysm in Children: Prevention. E. A. Pohle, Ann Arbor.—p. 145.
Treatment and Prophylaxis of Scarlet Fever. H. E. Bagley, Detroit.—p. 148.
Variable Factors in Lactic Acid Milk Feeding. D. J. Levy, Detroit.—p. 150.
Tuberculosis Preventorium. C. A. Ryan, Northville.—p. 153.
*Prostatic Nodes. N. E. Aronstam, Detroit.—p. 155.
Michigan State Medical Society: Its Activities and Methods. F. C. Warnshuis, Grand Rapids.—p. 157.
Pituitary Gland. J. M. Nielsen, Battle Creek.—p. 162.
Some Psychologic Problems in Otolaryngology. B. R. Shurly, Detroit.—p. 166.
Ocular Manifestations of Systemic Diseases. E. E. Poos, Detroit.—p. 169.
Surgical Diseases of Gallbladder. C. D. Brooks, Detroit.—p. 171.
*Gangrenous Appendix in Femoral Hernia. J. A. MacMillan and F. B. MacMillan, Detroit.—p. 179.
Case of Corymbriform Syphilid Two or Three Weeks After Initial Lesion. C. K. Valde, Detroit.—p. 180.

Prevention of Thymic Paroxysms in Children.—Pohle reports observations on eighty-eight cases treated with the roentgen ray. In all cases in which the patients responded to the treatment, an average of two treatments was required.

Prostatic Nodes.—Aronstam asserts that gonorrhea is the most common cause of prostatic nodes. They are sources of toxin absorption, and are responsible for the subsequent train of symptoms thus engendered. The treatment is unsatisfactory and problematic.

Gangrenous Appendix in Femoral Hernia.—The patient under the care of the MacMillans stated that she had noticed a lump in the right femoral region for the past twenty-two years which would appear with any straining of the abdominal muscles. This at first was very small, but for the past three years had become larger. It did not give any trouble and would often disappear. Then came a time when the lump would not disappear. The patient was nauseated and had considerable pain. A diagnosis of strangulated femoral hernia was made and operation was advised. The sac was exposed. This contained several clear cysts within its walls; it was single and dark. The contents were examined and found to be the vermiform appendix, gangrenous, and tightly constricted 3½ inches from the proximal end by the femoral ring.

Minnesota Medicine, St. Paul

10: 141-204 (March) 1927

Difficulty of Adjustment During Adolescent Period. G. Donohoe, Cherokee, Iowa.—p. 141.
Evolution of Nephritis: Prognosis and Treatment: I. Renal Function. H. O. Altnow, Minneapolis.—p. 146.
Alcohol and Its Effects on Nervous System. G. R. Kamman, St. Paul.—p. 153.
Interrelationship Between Tuberculosis and Nervous System. J. C. Michael, Minneapolis.—p. 159.
Use of Lipiodol in Diagnosis of Pulmonary Conditions. A. H. Beard, Minneapolis.—p. 165.
Carbohydrate Problem in Infant Feeding. W. B. Richards, St. Cloud.—p. 173.
Minnesota as Health Resort. H. L. Taylor, St. Paul.—p. 175.

Missouri State Medical Association Journal, St. Louis

24: 93-128 (March) 1927

*Echinococcus Disease in Missouri. E. P. Heller, Kansas City.—p. 93.
Posterior Pituitary Extract (Obstetric). W. C. Gayler, St. Louis.—p. 96.
*Open Air School in Prevention of Disease. G. H. Hoxie, Kansas City.—p. 97.
*Obscure Cases of Whooping Cough Pneumonia. C. B. Summers, Kansas City.—p. 102.
Neurotic Disorders. L. B. Alford, St. Louis.—p. 103.
*Polycythemia Vera. O. Abel, Jr., St. Louis.—p. 106.

Echinococcus Disease in Missouri.—Heller reports a case of multiple echinococcus cysts of the abdominal cavity of a monkey. The parent cyst was under and behind the liver, and about the size of an ordinary grapefruit. A cyst the size of a large marble occupied the left lower lobe of the lung. The number of recorded cases of echinococcus disease in man, in Missouri, during fifty years is fifteen, but the number of authentic cases is believed to be in the neighborhood of thirty.

Open Air School in Prevention of Disease.—Hoxie concludes that in community hygiene there is a place for the open air school in caring for the contacts with active tuberculosis, and in caring for the children who have become infected with tuberculosis but who have not yet developed the disease. Even in cases of glandular tuberculosis, improvement takes place under this regimen. It is worth while also in cardiac cases and in malnutrition due to focal infection and bad care.

Whooping Cough Pneumonia.—Summers reports three cases of whooping cough pneumonia in infants under 1 year, in which there was no history of whooping cough at the time but which were diagnosed as such only after the infants had received intramuscular ether injections and the character of the cough was noted after improvement of their condition. These infants were critically ill with what was thought to be bronchopneumonia complicating an ordinary head cold and bronchitis. The history obtained from the parents was that of a beginning coryza and cough a week or ten days before, which became progressively worse, regardless of treatment. There was no history of choking spells or vomiting after the cough. The coughing, however, came in spells, being worse during the night. Summers thinks that many infants develop a bronchopneumonia and succumb, without a diagnosis of whooping cough having been made.

Polycythemia Vera.—In four of the six cases reported by Abel, the patients were treated with phenylhydrazine hydrochloride, but with disappointing results. In two cases, severe anemia was produced.

Occupational Therapy and Rehabilitation, Baltimore

6: 1-85 (Feb.) 1927

Coordinating Work of Physical Instructor with Other Work in Occupational Therapy Department. V. Scullin, New York.—p. 19.
Organizing Occupational Therapy Department in Children's Hospital. W. Conrick, Indianapolis.—p. 23.
Occupational Therapy for Outpatients and Homebound. C. Bean, New York.—p. 31.
Special Problems in Private Mental Hospitals. H. G. Price, Towson, Md.—p. 37.

Ohio State Medical Journal, Columbus

23: 191-270 (March) 1927

*Cystitis. W. E. Lower, Cleveland.—p. 211.
Dermatitis Artefacta: Seven Cases. E. W. Netherton, Cleveland.—p. 215.
Glaucoma Without Appreciable Rise in Intra-Ocular Pressure. L. Nippe, Toledo.—p. 221.
Tuberculosis; Relation to Public Health. C. L. Hyde, East Akron.—p. 224.
Large Adenomatous Goiter. R. B. Drury, Columbus.—p. 227.
Pulse Pressure in Men and Women. J. R. Earp, Yellow Springs.—p. 229.
Linseed Oil Dermatitis. F. J. Vokoun, Cleveland.—p. 229.

Treatment of Tuberculous Cystitis.—Lower suggests the use of the ultraviolet rays in the treatment of tuberculous cystitis. The aim has been simply to renew and to emphasize the oft repeated warning that cystitis must rarely be regarded as a clinical entity; it is generally a secondary, not a primary disease. It demands local relief and, even more urgently, a painstaking search for the primary condition.

Public Health Journal, Toronto

18: 51-100 (Feb.) 1927

*Plea for National Health Association. L. K. Frankel, New York.—p. 51.
Antisyphilitic Pharmacopoeia of Fracastorius, with Glossary. W. R. Riddell.—p. 58.
Social Hygiene Movement; Educational Point of View. B. A. Bensley, Toronto.—p. 69.
Trend of Modern Food Inspection. A. Rigby, Winnipeg, Man.—p. 75.

National Health Association.—Frankel is convinced that a united organization could revolutionize health work in the United States, whether such an organization is through the Red Cross, through the National Tuberculosis Association, or is entirely new, manned by representative men and women, with divisions and bureaus to cover every field of activity now covered by existing national health organizations, and with a definite purpose to cooperate with official health bodies, either local, state or national.

South Carolina Med. Association Journal, Greenville

23: 285-308 (Feb.) 1927

Treatment of Lobar Pneumonia. V. P. Sydenstricker, Augusta, Ga.—p. 287.
Rabies in Human. W. G. Gamble, Jr., Florence.—p. 292.
Sialolithiasis. J. F. Townsend, Charleston.—p. 297.

Southern Medical Journal, Birmingham, Ala.

20: 171-256 (March) 1927

Surgery of Brain Tumors. E. Sachs, St. Louis.—p. 171.
Cranial Injuries. U. Maes, New Orleans.—p. 178.
*Intracranial Hemorrhage in New-Born. N. C. Womack, Jackson, Miss.—p. 183.
Functional Disorders of Stomach. J. P. Chapman, Birmingham.—p. 184.
Achylia Gastrica and Related Conditions. D. VanderHoof, Richmond, Va.—p. 189.
*Sarcoma of Breast. C. W. Flynn, Dallas, Texas.—p. 191.
Psychoneuroses. L. F. Barker, Baltimore.—p. 196.
Interpretation of Abnormal Uterine Bleeding. E. H. Richardson, Baltimore.—p. 199.
Gynecology from Clinical Point of View. E. Dunlap, Dallas, Texas.—p. 202.
Needs of Rural Medicine in Carolinas. W. S. Rankin, Charlotte, N. C.—p. 209.
Problems of Medical Education. H. W. Cox, Atlanta, Ga.—p. 214.
Teaching Medical Students Normal Body. L. J. Moorman, Oklahoma City.—p. 216.
Puerperal Infection. C. J. Miller, New Orleans.—p. 219.
*Disturbances of Cardiac Function Leading to Heart Failure. G. C. Robinson, Nashville, Tenn.—p. 222.
*Headache Due to Arthritis of Cervical Spine. C. S. Holbrook, New Orleans.—p. 225.
First Aid in Railway Surgery. R. W. Knox, Houston, Texas.—p. 228.
Congenital Atresia of Esophagus. E. N. Broyles, Baltimore.—p. 232.
Standard Milk Ordinance Results in Fourteen Alabama Towns. L. C. Frank, S. W. Welch and C. A. Abele, Montgomery, Ala.—p. 233.
Cautery Excision of Cancerous Rectum. G. V. Brindley, Temple, Texas.—p. 240.
*Two Cases of Appendiceal Abscess in Infants. A. S. Root, Raleigh N. C.—p. 245.
Pernicious Anemia. J. H. Musser, New Orleans.—p. 246.
Ethmoidal, Pneumococcic Septicemia: Intravenous Therapy. V. K. Hart, Statesville, N. C.—p. 249.
Tularemia in Alabama: Case. J. M. Mason and E. M. Mason, Birmingham.—p. 251.

Intracranial Hemorrhage of New-Born.—Of approximately 200,000 infants who died last year during the first year of life, Womack says, 60,000 died the first week and 25,000 the second week. It is estimated that 50 per cent of these children died from intracranial and visceral hemorrhage. Womack suggests that the blood coagulation time, or bleeding time, and the calcium estimation of the blood taken for both mother and infant before and after delivery might be of value. He reports one case.

Sarcoma of Breast.—Fibroblastic sarcoma, spindle cell sarcoma, melanotic sarcoma and fibromyxosarcoma were the types of sarcoma in the cases reported by Flynn. A mammectomy was done in the first two cases. These patients are alive and without evidence of recurrence. The other two patients are dead. The last mentioned died in spite of a radical operation. One of these four patients, the first, was a man.

Acute Myocardial Failure.—Robinson says there is, no doubt, a type of heart failure, that may be termed acute myocardial failure, in which the pulse is small, the blood pressure low and the heart sounds rapid and weak. The body temperature is often subnormal, there is rapid and shallow breathing, a dusky, ashen or blue-gray pallor of the skin, and mental stupor. Such signs appear after hemorrhage, in surgical shock, and after occlusion of a coronary artery. These signs are probably always accompanied by or perhaps caused by a decrease in the output of the heart. In such conditions measures to increase the output of the heart are indicated, such as increasing the supply of fluid in the body and applying external heat. It seems especially important that digitalis, which would further diminish the cardiac output, should not be given. This type of heart failure may also occur in pneumonia, and there is a time during the disease when the treatment of the circulation should be altered. For instance, digitalis should be used in pneumonia during the early days of the disease when the output of the heart is increased, in order to spare the heart, but it should be stopped when signs of failure of the muscle set in.

Headache Due to Cervical Arthritis.—Holbrook reports two cases of severe headache in which the clinical diagnosis of cervical arthritis was confirmed by the roentgen ray.

Appendical Abscess in Infants.—One of Root's patients was 16 months old, the other 13 months. One baby recovered from the operation and the other one died. His physical condition previous to operation had been very bad and he could not stand the shock.

Texas State Journal of Medicine, Fort Worth

22: 611-670 (Feb.) 1927

Infection of Respiratory Tract in Infant and Child. W. W. Wasson, Denver.—p. 623.
Chronic Maxillary Sinus Disease. S. Israel, Houston.—p. 626.
Gallbladder Diagnosis. L. Rice, San Antonio.—p. 630.
Heart in Rheumatic Conditions. N. D. Buie and O. T. Bundy, Marlin.—p. 634.
Complications of Suprapubic Prostatectomy. E. White, Dallas.—p. 636.
Relation of Railway Surgeon to Personnel and Operating Departments. W. E. Williams, St. Louis.—p. 640.
Two Cases of Chronic Purulent Mastoiditis. E. M. Sykes, San Antonio.—p. 643.
*Intravenous Iodine Therapy. B. Shelmire, Dallas.—p. 644.
*Pyelitis. R. E. van Duzen, Dallas.—p. 650.

Intravenous Iodine Therapy.—Shelmire reports two cases of extensive sporotrichosis of the arms in which intravenous iodine therapy was very effective. He says that doses of from 3 to 12 cc. of iodine-sodium iodide solution, well diluted with distilled water or physiologic sodium chloride solution, can be given intravenously at a single injection. Slight local thickening of the vein, after repeated injections, is the sole complication.

Treatment of Pyelitis.—The drugs most commonly used by van Duzen in the treatment of pyelitis were methenamine and sodium acid phosphate. The methenamine was alternated with an alkaline diuretic, preferably potassium citrate, at intervals of from three to seven days. Sodium citratocarbonate has not been satisfactory, and, contrary to various assertions, caused considerable gastric disturbance at times. In a few cases phenyl salicylate was substituted. Hexylresorcinol has been a disappointment. Mercurochrome has been given intravenously in a few cases of marked sepsis with gratifying results; however, its use in chronic cases was without benefit. Blood transfusion was necessary in several cases. Autogenous vaccine was used in one case with favorable results. A few patients with ureteral stricture, who continued to have periodic, cramplike pains along the ureters after thorough dilation, were relieved by tincture of belladonna, 10 drops, three times a day. Cystoscopic treatment was resorted to in 67 per cent of the cases. It was not attempted until medical treatment had been given a thorough trial. Silver nitrate, in 0.5 to 2 per cent solutions, was used as a routine measure for pelvic lavage. Colloidal silver iodide compound (neosilvol) gave several severe reactions.

West Virginia Medical Journal, Charleston

23: 113-168 (March) 1927

Biliary Surgery. W. W. Babcock, Philadelphia.—p. 113.
*Tetany Following Administration of Sodium Bicarbonate. W. R. Morris, Alpoca.—p. 121.
Infectious Mononucleosis. R. M. Wylie, Huntington.—p. 128.
Obstetric Complications. J. A. Riedy, Monogah.—p. 134.
Obstetrics Viewed by General Practitioner. J. L. Miller, Thomas.—p. 137.
*Teratoma of Testis. A. J. Goodwin, Wheeling.—p. 145.
Meinicke Reaction for Syphilis. B. F. Brugh, R. H. Landon and E. Laird, Montgomery.—p. 149.

Fatal Tetany Following Administration of Sodium Bicarbonate.—Morris reports a case of ileocolitis, pertussis and bronchopneumonia in an infant, aged 22 months. To combat acidosis and afford some nourishment a subcutaneous infusion of dextrose, 3 drams (11 cc.) and sodium bicarbonate, 1½ drams (5.6 cc.) was ordered. Five hundred cubic centimeters was injected in two doses five and a half hours apart. About two hours after the second injection, the baby manifested all the symptoms of tetany and died soon afterward.

Teratoma of Testis.—Goodwin reports a case of rapidly growing tumor of the testis, a carcinoma of an embryonic type in which secondary carcinoma of the lungs, liver, stomach and mesenteric lymph nodes was discovered at the necropsy.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Dermatology and Syphilis, London

39: 49-94 (Feb.) 1927

*Psychologic Factor in Dermatitis. W. J. O'Donovan.—p. 49.
Syphilitic Macular Atrophy. G. B. Dowling.—p. 55.
Hypoplasia (Aplasia) Pilorum Moniliformis. F. P. Weber and J. Axhausen.—p. 62.
Unrecognized Cases of Congenital Syphilis. S. V. Goldhurst.—p. 66.

Psychologic Factor in Dermatitis.—O'Donovan stresses the fact that pathologic processes in the skin do not belong to a different category from those found elsewhere. Long continued inflammation of internal organs leads to fibrosis; long continued inflammation is due to syphilis, tuberculosis, or to the presence of a foreign body. A long continued inflammation of the skin does not scar, and if the great infecting agents are absent, the one factor absent from the viscera is that of external irritation. This irritation is most easily supplied by the rubbing and scratching of the patient himself. This goes on even during sleep. It is most marked in patients who have a neuropathic diathesis, and on investigation psychic states of great interest can often be elicited.

British Journal of Ophthalmology, London

11: 49-96 (Feb.) 1927

Block Capital Letters as Tests of Visual Acuity. H. Banister.—p. 49.
Birth of Ophthalmology: Development in Early Arabic Literature. A. F. MacCallan.—p. 63.
Ophthalmic Radiation Lamp. W. S. Duke-Elder.—p. 67.
Metal Cast of Anterior Segment of Eyeball Made of Living Human Subject. J. M. Ball.—p. 73.
Avoidance of Postoperative Infection in Cataract Operations. B. P. Banaji.—p. 75.
Proptosis in New-Born Child. B. K. N. Rao.—p. 79.

British Medical Journal, London

1: 269-312 (Feb. 12) 1927

*Disseminated Sclerosis: Infective Origin. D. McAlpine.—p. 269.
*Pathogenesis of Respiratory Anomalies After Epidemic Encephalitis. M. Critchley.—p. 273.
*Experiments on Radiation of Tumors. J. C. Mottram.—p. 275.
Asthma with Maxillary Sinusitis and Healthy Supernumerary Paranasal Sinus. W. S. T. Neville.—p. 277.
Case of Self-Mutilation. D. J. A. Kerr.—p. 278.
Mastoiditis Limited to Deep Subantral Cells. J. B. Horgan.—p. 279.
Henoch's Purpura in Adult. A. G. MacGillivray.—p. 279.
Diverticulitis of Cecum. H. Pereira.—p. 279.
Obesity of Pituitary Type Probably Sequel of Lethargic Encephalitis. F. M. B. Allen.—p. 280.
Occupational Bursa of Hand. B. W. Rycroft.—p. 280.

Exogenous Origin of Disseminated Sclerosis.—McAlpine feels that little advance has been made in the treatment of disseminated sclerosis, and that none can be looked for until more is known of the etiology of the disease. The exogenous theory of this disease, though it may seem at first glance to be wild and speculative, is one that may repay further study.

Pathogenesis of Respiratory Anomalies.—Critchley submits his theory that the respiratory disorders are essentially organic in their pathogeny, and suggests that they arise from a disorder of the psychomotor pathways controlling the respiratory centers, together with a defective inhibition by cortical control.

Experiments on Irradiation of Tumors.—Mottram asserts that tumors left for from four to five days in the animal after irradiation, and then removed and grafted into other animals, succumb more easily than when removed immediately after exposure. This effect is associated with an interference with the blood supply, which occurs from four to five days after the exposure. These results suggest the hypothesis that the varying sensibility to radiation of tumors, and the difference in sensibility between normal tissues and tumors, are associated with the variations in blood supply, on which the radiation has a special action apart from its direct action on cells.

Indian Medical Record, Calcutta

47: 1-32 (Jan.) 1927

Human Death: Analysis. A. Macdonald.—p. 1.
Epidemic Dropsy. R. Chatterjee.—p. 8.

Irish Journal of Medical Science, Dublin

6: 49-96 (Feb.) 1927

Thirty-Six Years' Work at Rotunda Hospital. D. G. Madill.—p. 54.
Value of Graphic Methods. G. E. Nesbitt.—p. 68.
Thrombo-Angiitis Obliterans. W. I. de C. Wheeler.—p. 76.
Acute Lobar Pneumonia. T. G. Moorhead.—p. 83.

Journal of Laryngology and Otology, Edinburgh

42: 81-148 (Feb.) 1927

Rhinology and Laryngology in Literature and Folk Lore. A. Wylie.—p. 81.
Clinical Aspect of Tonsils. P. Franklin.—p. 88.
Treatment of Middle Ear Deafness by Radium. W. C. Stevenson and T. G. Wilson.—p. 96.
Treatment of Furunculosis by Ionization. F. H. B. Norrie.—p. 105.

Journal of Pathology and Bacteriology, Edinburgh

30: 1-184 (Jan.) 1927

*Diurnal Tides of Leukocytes. A. F. B. Shaw.—p. 1.
Action of Cyanides on Bacteria. F. M. Burnet.—p. 21.
*Thrombo-Angiitis Obliterans. J. Marnoch and E. MacRae.—p. 39.
*Infection of Rats by Gärtner's Bacillus. C. Price-Jones.—p. 45.
*Presence of Pressor Substance in Blood in Hyperpiesis. F. R. Curtis, A. A. Moncrieff and S. Wright.—p. 55.
*Neoplasm in Porose Crocodile. H. H. Scott and J. Beattie.—p. 61.
*Experimental Herpetic Meningo-Encephalitis. C. Da Fano and J. R. Perdrau.—p. 67.
Complement Fixation with Bilharzia: II. Production of Specific Antibody by Intravenous Injections of Protein-Free Alcohol-Soluble Cercarial Extracts. N. H. Fairley.—p. 97.
Relation of Alcohol-Soluble Constituents of Bacteria to Their Spontaneous Agglutination. P. B. White.—p. 113.
Rapid Death of Meningococcus and Gonococcus in Oxygenated Cultures: Part Played by Unduly Alkaline Reaction. H. V. Phelon, G. M. Duthie and J. W. M'Leod.—p. 133.

Diurnal Tides of Leukocytes.—The view is advanced by Shaw that the leukocytes of man exhibit twice daily a tidal rhythm of about twelve hours' duration which is independent of certain recognized physiologic stimuli, the evidence being derived from a study of leukocytic variation in the peripheral blood of man, and the distribution of the leukocytes in the internal organs of animals.

Thrombo-Angiitis Obliterans. — The case reported by Marnoch and MacRae corresponds, in its main characteristics, with others of similar nature reported, its chief features being patchiness of distribution of the lesions in all arteries of the limb; obliteration of the lumen in parts by well organized and canalized thrombus, the new channels in some cases being blocked by more recent thrombus; perivascular adhesions at the obstructed parts of the arteries; and such free formation of collaterals that the vessels show in some parts considerable variation from the normal arrangement. An outstanding feature in all the vessels involved was the hyperplasia and splitting of the elastic tissue, more especially of the internal elastic lamina. Perineural cellular infiltration was not observed, but the nutrient arteries of the nerves were affected to a moderate degree. These were sclerotic, more especially where the lumen remained patent.

Experimental Infection by Gaertner's Bacillus.—Experiments made by Price-Jones indicate that rats can be readily infected with Gaertner's bacillus by feeding. In those rats which do not die, there is some interference with growth at first but afterward the animals seem quite well. The bacillus can be found in the spleen and liver of nearly all the fed animals in about forty-eight hours, and after about ten days begins to disappear, so that at the end of about two months it can be recovered from only about 10 per cent. In a minority it survives at least five months. Specific agglutinins develop and can be found long after the animal has got rid of the bacilli: agglutination persists particularly in animals which still harbor the bacilli. These surviving animals, which are to outward appearance healthy, can initiate an epidemic among fresh rats and can be reinfected.

Pressor Substances in Blood in Hyperpiesis.—Curtis et al. failed to find any evidence of the presence of a pressor substance in the blood of patients with hypertension. They also examined the effect of injecting the washed corpuscles of blood of patients with hypertension. No effect, or a slight fall in blood pressure, resulted. The animals were frequently noted to develop hemoglobinuria during the course of the experiments as the foreign red cells underwent hemolysis.

Sarcoma of Crocodile's Brain.—Scott and Beattie report a case of sarcoma occupying the ventral surface of the cerebellum of a crocodile with metastases to the heart and liver.

Experimental Herpetic Meningo-Encephalitis.—A hitherto undescribed form of chronic or subacute herpetic meningoencephalitis has been obtained by Da Fano and Perdrau in rabbits, either by provoking in them a state of partial immunity to the virus of herpes or by attenuating or altering the same virus in vitro prior to inoculation. Clinically, experimentally and histopathologically, this condition resembles more closely epidemic encephalitis in man than does the acute experimental disease.

Kenya Medical Journal, Nairobi, East Africa

3: 271-300 (Jan.) 1927

Type of Monilia in Case of Suspected Pulmonary Tuberculosis in European. F. P. G. de Smidt.—p. 272.
*Quinine Prophylaxis. A. McKenzie.—p. 274.
Medical Work in Native Reserve. R. A. W. Proctor.—p. 284.
Value of Three Examinations of Fecal Specimens in Diagnosis of Entozoal Infections. J. C. J. Callanan.—p. 290.
Case of Human Hydrophobia at Moyale. G. R. Davies.—p. 292.
Case of Sarcoma of Scrotum. A. S. Mackie.—p. 295.
Carcinomatous Ulcer in Native. C. P. Donnison.—p. 295.

Value of Quinine Prophylaxis.—McKenzie says there is no such thing as prophylactic quinine treatment. In every case in which the taking of quinine has prevented the onset of malaria, there has been a masked attack which may or may not have been completely cured. There is an optimum dose of quinine to be used in the treatment or prevention of malaria. Any dose above this is quinine wasted; anything below is inadequate. The average figure lies between 10 and 20 grains (0.65 and 1.3 Gm.). Quinine is useless unless parasites are present in the blood, and antirelapse treatments are far too long. Quinine does not act by its direct action on the parasite but in conjunction with some mechanism of the host. Primary attacks are very easily cured if not previously quininized, for it is probable that long periods of quininization exhaust the body's capacity of dealing with the parasite, perhaps by lessening its reaction to quinine. McKenzie would not have any one take prophylactic quinine.

Lancet, London

1: 373-422 (Feb. 19) 1927

Hunter's Ideals and Lister's Practice. B. Moynihan.—p. 373.
*Diagnosis of Hepatic Disorders. D. T. Davies.—p. 380.
*Levulose Tolerance Test for Hepatic Efficiency. G. King.—p. 385.
*Ringworm of Scalp Treated by Thallium Epilation. G. B. Dowling and R. Kelman.—p. 389.
*Serum Treatment of Pneumococcal Meningitis. A. S. Simpson.—p. 390.
"Sonne" Dysentery in England. F. H. A. Clayton.—p. 391.

Diagnosis of Hepatic Disorders.—Davies summarizes his paper as follows: In obstructive jaundice the galactose test is negative, but the van den Bergh reaction is direct, the cholesterol content is high and bile salts are present in the urine. In toxic and infective jaundice (including the hepatitis called catarrhal jaundice), and in any other lesion of the hepatic cell, the following are the salient features: A difference of blood sugar far exceeding 30 mg. per cent; a loss of more than 2 Gm. in the urine; a normal cholesterol content; a van den Bergh reaction which is indefinite, with generally bile pigments only in the urine, and lastly, urobilin reaction which is strong in degree. In extrahepatic jaundice the main features are on the negative side—a negative galactose test, absence of urobilin in the urine, and the normal cholesterol content being the main aids in diagnosis.

Levulose Tolerance Test for Hepatic Efficiency.—King applied the levulose test for hepatic efficiency in fifty-three cases and obtained consistent results. In ten normal cases the average rise of the blood sugar curve above the fasting level after a dose of 45 Gm. of levulose by mouth was 8 mg. per hundred cubic centimeters of blood. Normally there was a return to the fasting level within one and a half or two hours. In cases of disease of the liver, there was a definitely atypical reaction to a dose of levulose. The blood sugar curve was abnormally high and maintained, the peak of the curve being reached about one and a half hours after the test had been started. There was no return to the fasting level at the end of two hours. The height and duration of the rise in the blood sugar was in proportion to the degree of liver injury. The test is therefore of considerable value as an index of the functional capacity of the liver.

Thallium Acetate for Scalp Ringworm.—Dowling and Kelman report on twenty-four cases. The treatment consists of a single dose of thallium acetate, 8 mg. per kilogram of body weight, given by mouth in sweetened water. The hair begins to loosen in from six to eight days, and complete epilation has taken place by the nineteenth day. Confinement to bed during the whole period of treatment is desirable. As albuminuria may be a complication of thallium treatment, it is evident that the giving of thallium acetate to a person suffering from any renal disorder is contraindicated. Epilation has been satisfactory in every case so treated.

Serum Treatment of Pneumococcal Meningitis.—Simpson used only antimeningococcal serum and antipneumococcal serum in his case. An interesting feature of the case was a right hemiplegia of flaccid type, associated with an aphasia which cleared up synchronously.

Medical Journal of Australia, Sydney

1: 105-136 (Jan. 22) 1927

Public Health in Greater Brisbane. H. W. Tilling.—p. 105.
Biologic Side of Mosquito Control. R. H. Harris.—p. 108.
Factors Influencing Extraction of Teeth. L. Trott.—p. 109.
Dental Extraction in Its Relation to Surgery. L. C. E. Lindon.—p. 111.
Factors Influencing Extraction of Teeth. A. P. R. Moore.—p. 113.
Bad Results of Gynecologic Operations. R. I. Furber.—p. 115.
Puerperal Infections. H. A. Ridler.—p. 118.
Proptosis. H. M. Jay.—p. 119.
Pathology of Two Cases of Sudden Death. O. Latham.—p. 121.
Exophthalmic Goiter. O. A. A. Diethelm.—p. 123.
Herpes Ophthalmicus. J. B. Lewis.—p. 124.

1: 137-172 (Jan. 29) 1927

*Operative Treatment of Hirschsprung's Disease. R. B. Wade and N. D. Royle.—p. 137.
Anesthetics: Their Introduction to Australia and Tasmania. N. J. Dunlop.—p. 141.
Infantile Eczema. F. Trinca.—p. 152.
Nasal Polypi. W. Sangster.—p. 154.
Lymphocythemia. H. H. Bullmore.—p. 155.

Treatment of Megacolon by Ramisection.—Wade and Royle report a case of megacolon involving the cecum and part of the ascending colon, in which a specially designed lumbar sympathetic ramisection was performed on the left side; the white ramus to the first lumbar ganglion and the medial branches from the first, second, third and fourth lumbar ganglions were severed, and the trunk cut across below the fourth ganglion. Four months after the operation, the bowels had been opened regularly every day without enema or aperient; the abdomen was flat, but a peristaltic wave could occasionally be seen in the hypogastrium. The general condition had improved greatly. A further radiographic examination with a barium enema revealed the pelvic and descending colon to be still much distended, but the cecum, ascending and transverse colon were no longer distended, and exhibited normal segmentation.

1: 173-208 (Feb. 5) 1927

Anatomy of Female Pelvis. F. A. Maguire.—p. 173. (To be cont'd.)
*Herpes Zoster and Varicella Occurring Simultaneously. R. L. T. Grant.—p. 192.

Concomitant Herpes Zoster and Varicella.—At the height of a severe herpes zoster eruption along the left sixth and right seventh thoracic nerves, Grant's patient developed a typical generalized varicella. The rash was profuse on the chest, back, abdomen and scalp, and scattered on the extremities and face. There were vesicles within the mouth.

Quarterly Journal of Medicine, London

20: 101-218 (Jan.) 1927

*Bromsulphalein Test of Liver Function: Sixty-Six Cases. E. Bulmer.—p. 101.
*Effect of Protein in Diet of Patients Suffering from Diabetes Mellitus. A. Lyall.—p. 115.
*Effect of Parathyroid Hormone on Excretion of Lead and of Calcium in Lead Poisoning. D. Hunter and J. C. Aub.—p. 123.

*Effect on Breathless Subjects of Residence in Oxygen Chamber. J. M. H. Campbell and E. P. Poulton.—p. 141.
*Magnesium Content of Cerebrospinal and Other Body Fluids. H. Cohen. —p. 173.
*Insulin by Inunction a Failure. G. A. Harrison.—p. 187.
*Variability of Basal Metabolism. G. M. Wishart.—p. 193.
Influence of Previous Muscular Activity and Other Factors on Basal Metabolism. G. M. Wishart.—p. 199.
*Relation of Pulse Rate to Temperature in Febrile Conditions. D. M. Lyon.—p. 205.

Bromsulphalein Test of Liver Function.—Although Bulmer admits that this test is a simple one, and innocuous to the patient, he finds it objectionable because it depends on colorimetry. In 20 per cent of cases results are obtained which are obviously not representative of the degree of liver efficiency; the rest are acceptable. In obstructive jaundice the results suggest that the test is one of biliary permeability and not of liver efficiency.

Effect of Protein Diet on Diabetes.—Very high protein diets are undesirable on account of their power of sugar production and their specific dynamic action, but Lyall has failed to find evidence that protein diets up to 2 Gm. per kilogram have any deleterious effect on sugar tolerance. Protein has not been found to increase ketosis. This is contrary to the published results of the Petrén school, which states that increased ketosis runs parallel with increased nitrogen excretion. The results obtained by Lyall are in agreement with the theory of the ketogenic-antiketogenic ratio of Shaffer and Woodyatt.

Effect of Parathyroid Hormone in Lead Poisoning.—Evidence is adduced by Hunter and Aub in support of a theory that parathyroid extract rapidly and effectively mobilizes from the bones a certain amount of stored lead which is readily available. The remaining lead is mobilized much more slowly in the usual routine process of metabolism. The action of parathyroid extract confirms the theory that there is a striking parallelism between the storage and excretion of calcium and of lead. Parathyroid extract definitely increased the excretion of lead when first given. When parathyroid extract was given a second time, little or no increase in lead excretion was observed, though the extract was known to be potent because it produced its characteristic effects on calcium metabolism.

Effect of Oxygen in Bronchitis and Emphysema.—Campbell and Poulton report that patients with chronic bronchitis and emphysema have benefited by residence for a period of from one to three weeks in a chamber containing about 40 per cent oxygen. The improvement was shown by their sensations and by diminished cough, sputum and breathlessness; by increase of appetite and body weight; by the disappearance of rhonchi, and by the increased time of holding the breath. In some patients these effects quickly wore off; in others they appeared to last, partially at any rate, for months. The effect of treatment was to cause an increase in the percentage of carbon dioxide in the expired air during rest and exercise, and this effect was observed in certain cases for at least two days after leaving the chamber. Some evidence was obtained that in the less breathless type of patient, whose bronchitis was not associated with bronchial spasm, clinical improvement with oxygen was associated with a diminished intake of oxygen during exercise. Some evidence was obtained in a case of myocardial disease that exercise caused a temporary stasis of blood in the lungs. This was sometimes accompanied by a feeling of precordial pain and by diminution in the vital capacity. This phenomenon was much diminished during oxygen treatment.

Magnesium Content of Body Fluids.—A method is described by Cohen for the accurate estimation of magnesium in 2 cc. of body fluids. Observation on eighteen cases shows that the magnesium content of cerebrospinal fluid (average 3.28 mg. per hundred cubic centimeters), in normal and pathologic states other than meningitis, is constantly greater than that of the contemporary blood serum (average 2.56 mg. per hundred cubic centimeters). In meningitis, the excess of magnesium in the cerebrospinal fluid becomes less marked. In pleural and peritoneal effusions the magnesium content is smaller than in the serum, although the chloride concentrations in these effusions, as also in normal cerebrospinal fluid, are always greater than in serum. In postmortem specimens the serum contained more magnesium than the cerebrospinal fluid, although there is a considerable increase in the magnesium content of both serum and fluid. The cause of these changes is discussed. Experimental evidence is given suggesting that the magnesium content of the cerebrospinal fluid remains constant, in spite of a considerable increase in the magnesium content of the serum.

Insulin by Inunction a Failure.—Harrison has failed to obtain evidence that insulin can be absorbed through the intact human skin. An inunction of 100 units of insulin in hydrous wool fat did not lower the blood sugar of fasting rabbits.

Variability of Basal Metabolism.—In these studies, a closer correlation was found by Wishart between the basal metabolic rate and the total nitrogen excretion than between metabolic rate and uric acid excretion.

Relation of Pulse Rate to Temperature in Fever.—It is suggested by Lyon that pulse rate increase in fever is in large part a passive result of the elevated temperature.

South African Med. Assoc. Journal, Cape Town

1: 25-48 (Jan. 22) 1927

Thrombo-Angiitis Obliterans. B. Morrison.—p. 26.
Lethargic Encephalitis in South Africa. W. A. Berry.—p. 33.
Lacunar Paresis. M. J. Cohen.—p. 38.
Serologic Diagnosis of Typhoid. A. Pijper and B. D. Pullinger.—p. 39.
Treatment of Abortion. W. H. Maxwell.—p. 40.
Large Renal Calculus (9 ounces). M. G. Pearson.—p. 42.

Tubercle, London

8: 197-252 (Feb.) 1927

Tuberculosis in Mental Hospitals. A. E. Evans.—p. 197.
Tuberculosis: Prospect. A. Adams.—p. 207.
Specific Stimulation Therapy and Protective Inoculation in Tuberculosis. G. Schröder.—p. 213.
Care of Tuberculous Patient After Rest Period. W. L. Dunn.—p. 223.

Arbeiten aus dem anatomischen Institut der Kaiserlich-Japanischen Universität zu Sendai, Japan

12: 1-181 (Nov. 30) 1926

*Comparative Anatomy of Brain Stem of Mammals. G. Fuse.—p. 1.
*Uranium Nephritis. T. Suzuki.—p. 169.

Brain Stem of Mammals.—This essentially technical and scientific paper by Fuse consists of thirteen parts, each part discussing a different field, and in many instances presenting entirely new anatomic conclusions. Many illustrations elucidate the text, especially 120 beautiful plates, which will without doubt make a strong appeal for consideration by anatomists.

Uranium Nephritis.—Suzuki asserts that the pathologic changes in the glomeruli depend wholly on the nature and potency of the causative toxin. Sometimes only the epithelium and endothelium of the tubules are affected, often mainly the former; sometimes the interlobular connective tissue. On these changes depend the various forms of glomerulonephritis, the arteriosclerotic form included.

Okayama Medical Journal, Okayama, Japan

444: 1-152 (Jan.) 1927

Calcium Metabolism. K. Kitayama.—p. 1.
Structure of Elastica Externa and Its Combination with Media of Muscular Arteries. T. Sato.—p. 30.
Staining of Connective Tissue and Smooth Muscle Fibers by Mallory's Method. F. Bito.—p. 47.
Experimental Vaccination of Rabbits Cornea with Virus of Herpes Simplex and Herpes Zoster. I. Ehara.—p. 69.
Cumulative Action of Some Useful Cardiac Drugs of Digitalis Group. H. Utsunomiya.—p. 89.
Alopecia Areata and Vegetative Nervous System. A. Fujiwara.—p. 103.
Postmortem Changes in Schmidt-Lanterman's Inclusions in Peripheral Medullated Nerve Fibers of Rabbits. N. Sannomiya.—p. 112.
Action of Camphor on Blood Pressure. R. Katagi.—p. 123.
Geographic Distribution of First Intermediate Host, "Bythinia Striatula Var. Japonica," in Okayama Prefecture. K. Nagano.—p. 131.

Annales de l'Institut Pasteur, Paris

40: 973-1125 (Dec.) 1926

*Researches on Rabies. C. Levaditi et al.—p. 973.
Street Virus from Tangier. P. Remlinger.—p. 1070.
Vaccines in Treatment of Eye Infections in Horses. E. Nicolas.—p. 1075.

Researches on Rabies.—From a detailed study of the works of other authors and from personal researches, Levaditi, Nicolau and Schoen draw the following conclusions: The morphologic and biologic properties and the evolutionary cycle of the rabies virus resemble those of microsporidium of the glugerdae family. The analogy between the virus and the etiologic agent of epizootic encephalitis in rabbits (*Encephalitozoon cuniculi*) is striking. Nevertheless, the two parasites are not identical. The name of *Glugea lyssae* is given to the rabic protozoon. The evolutionary cycle of the *Glugea lyssae* appears to be complex; so far only a few phases of the cycle are known, among them the intracellular pansporoblastic phase. There is probably another phase characterized by the appearance of spores and ameboid microorganisms, ultramicroscopic and filtrable elements of reproduction. The morphologic details of this phase cannot be learned with the present methods of research. The pansporoblastic phase is not obligatory for the development of rabies. The fixed virus is a variety of *Glugea lyssae* created by way of mutation. Association of rabies virus and neurovaccine may occur in a spontaneous infection or in experimental inoculation. In these cases, intracerebral inoculation of the rabies virus may unleash neurovaccinal encephalitis, which then usurps the place of typical rabies.

Archives des Maladies de l'App. Digestif, etc., Paris

16: 1097-1208 (Dec.) 1927

*A Technic for Ileocolectomy and the Results. M. Robineau and H. Laffitte.—p. 1097.
Stenosis of Duodenum with Ulceration of Duodenal Bulb. G. Moscof.—p. 1113.

A Technic for Ileocolectomy; the Results.—Robineau and Laffitte describe their technic as used in twenty-eight cases. Seventeen patients presented stasis of the right colon with or without ulcerous colitis; four had cancer; five, various tumors; one, megacolon, and one, recurring colic fistula. The chief points of the technic are the following: Even in case of a lesion limited to the cecum, the intestine is resected as far up as the middle part of the transverse colon. Ecraseurs are not employed. Anastomosis is established between the small and the large intestines. The sutures include the fibromuscular layer. (The details of the technic are given.) Two patients died within five days after the operation. Postoperative complications were observed in five cases; they occurred between the eighth and the tenth day, and were not grave. Twenty patients recovered without any incident. In nine cases the remote results were verified by roentgenologic or histologic examination; they proved to be perfectly satisfactory.

Archives des Maladies du Cœur, etc., Paris

19: 769-832 (Dec.) 1926

Intracardiac Reflexes and Disordered Arrhythmia. L. Bard.—p. 769.
*Pulmonary Edema with Mitral Stenosis in Nonpregnant Women. E. Doumer.—p. 791.
Diastolic Cantering Rhythm from Disturbed Auriculoventricular Conduction. L. Gallavardin and P. Veil.—p. 797.
History of Tuberculosis of the Heart and Vessels. M. Piéry.—p. 800.

Acute Edema of the Lung in Mitral Stenosis in Nonpregnant Women.—Doumer adds three observations to the eight which he had found in the literature. The patients were women, aged from 25 to 35. The pulmonary edema appeared in slight attacks following muscular effort. The dyspnea was less violent than that in arterial hypertension or aortic lesions. Expectoration was insignificant. The attacks usually vanished under the influence of rest. In all the patients the cardiac rhythm remained normal; the left auricle was moderately enlarged. An infectious or rheumatic condition or pregnancy was not present. Pulmonary edema is the result of a reflex originating in the auricular wall, when exposed to a high pressure. The reflex causes the transudation. Pregnancy as a factor favoring enlargement of the auricle may awaken this reflex.

Bulletin de l'Académie de Médecine, Paris

97: 191-228 (Feb. 15) 1927

*New Researches on Development of Tubercle Bacillus. A. Vaudremer et al.—p. 202.
Mode of Action of Mineral Waters. E. Feuillié.—p. 211.
Character and Evolution of Recent Influenza Epidemic. M. Renaud and C. Juge.—p. 216.
The Beta-Oxidation. A. Gascard.—p. 220.
Heliotherapy of Infants for Prevention of Rickets. P. F. Armand-Delille.—p. 224.

New Researches on Development of the Tubercle Bacillus; Clinical Observations.—Vaudremer, Puthomme and Paulin's experiments were made with agar cultures of tubercle bacilli previously exposed to the action of *Aspergillus fumigatus*. (The details are given.) In the aspergillar medium, the bacilli gradually disappeared. Their place was taken by cyanophil granules, which were not acid-resisting, were gram-positive and easily stained by methylene blue. On the appearance of granules, the culture became turbid; this phenomenon corresponded to a massive formation of micro-organisms. The latter were further cultivated on agar. It seemed at first that the micro-organisms died there. However, eight or ten months later cyanophil granules, acid-resisting granules and typical tubercle bacilli appeared in the culture tubes. Guinea-pigs inoculated with the culture did not develop tuberculosis. The agar culture was then treated with ox or horse serum mixed with glycerin. Animals injected with this "regenerated" culture died in eight days. Tubercles were found in the lungs and in the spleen. Heated emulsion of the agar culture was used in treatment of 263 patients. Twelve subcutaneous injections, each of 1 or 2 cc., were given four or five days apart. The patients were suffering from peritonitis or from a disease of the glands, joints, skin or kidneys, of tuberculous origin. Recovery was manifest in 199; improvement in forty-eight; the condition remained unchanged in ten, it became aggravated in six. The treatment failed in members of the colored race.

Journal de Chirurgie, Paris

28: 641-772 (Dec.) 1926

*Surgical and Nonsurgical Treatment of Pott's Disease. L. Delrez and L. Christophe.—p. 641.
Fractures of Upper End of Tibia. N. Barbilian.—p. 663.

Surgical and Nonsurgical Treatment of Pott's Disease in Children.—Delrez and Christophe give the histories of twenty children with Pott's disease, twelve of whom were treated with bone grafting. A piece of bone with the periosteum is usually taken from the tibia. A fragment 2 mm. thick suffices. It is sometimes more convenient to break the transplant into two or three pieces. The graft is inserted into a longitudinal cleft made in the diseased spinous processes. Three of the children operated on died from one to three years later; two from generalization of the tuberculous process. Of eight children treated by medical methods, three died, three grew worse; in two, the condition continues to be apparently favorable. The advantages of bone grafting are the following: growth of the gibbus is unusual after the intervention; the operation is benign; long immobilization is avoided. It is not a radical cure, but is a useful adjuvant in the treatment.

Journal de Radiologie et d'Électrologie, Paris

10: 529-592 (Dec.) 1926

*Roentgenotherapy of Tumors of the Craniospinal Space. A. Béclère.—p. 556.

By-Effects of Roentgen-Ray Treatment of Tumors in the Craniospinal Cavity.—Béclère emphasizes that the gravest accidents occurring under roentgen-ray treatment of craniospinal tumors are of mechanical origin. They consist in hyperemia and edematous swelling of the irradiated tissues, resulting in increase of the medullary or intracranial compression. The phenomena sometimes develop on the day of the first exposure, if the initial dose is high. The dose should be especially moderate in cases with an already existing compression from the tumor. In intraspinal tumors the first or test exposure should not exceed 500 Behnken units, and the exposure should not be repeated before the third day.

In intracranial tumors it is advisable to measure the tension of the cerebrospinal fluid before the roentgen-ray treatment is begun. The dose is regulated accordingly. Moderate doses of the rays, frequently repeated, are preferable to high doses given at long intervals.

Presse Médicale, Paris

35: 225-240 (Feb. 19) 1927

*Fate of New-Born Infants of Tuberculous Mothers. A. Couvelaire.—p. 225.
*An Indication for Resection of Presacral Nerve. D. Ferey.—p. 227.
Origin, Epidemiology and Treatment of Acute Articular Rheumatism. A. Ravina.—p. 228.

Fate of New-Born Infants of Tuberculous Mothers.—Couvelaire's five years' observation was conducted on 356 pregnant women with tuberculosis. Of 357 fetuses, 319 were born alive; the weight was below 3 Kg. in 50 per cent. The mortality in the first month of life decreased from 33 per cent to 7.2 per cent owing to strict separation of the infants from their mothers and to proper feeding and sanitary surroundings. Experimental researches were made as follows: Guinea-pigs were inoculated with glandular or visceral products of stillborn fetuses or infants dead from progressive denutrition, without signs of tuberculosis. The animals did not develop tuberculous lesions; nevertheless, tubercle bacilli were found in the glands. The facts confirm the theory of transmission of a filtrable tuberculous virus through the placenta. The congenital infection may become extinguished, remain latent or determine specific anatomic lesions in the future.

Indication for Resection of Presacral Nerve.—Ferey reports four cases of cancer of the uterus, in which resection of the presacral nerve was done on account of severe pain in the bladder, rectum or suprapubic region. In one instance the operation was performed for pelvic neuralgia connected with an atheroma at the aortic bifurcation. After the operation, cystalgia, pain during micturition or defecation and tenesmus disappeared. The pain had not reappeared up to the time of death, from three to nine months later. The operative technic is described. A median incision is used instead of Pfannenstiel's transverse incision. The operation did not occasion even a transient retention of urine.

Progrès Médical, Paris

54: 1845-1924 (Dec. 7) 1926. Partial Index

*Nonvenereal Balanoposthitis and Vulvovaginitis. F. Balzer.—p. 1855.
*Gastric Ulcer and Leukopedesis. M. Loeper and G. Marchal.—p. 1858.
Cases of Spontaneous Perforation of Sigmoid Colon. M. Chifoliau and F. Malleysson.—p. 1863.
Usual Picture of Hypochondriasis. H. Codet.—p. 1873.
*Value of Clinical Signs in Prognosis of Nephritis. P. Ducamp.—p. 1882.

Conjugal Balanoposthitis and Vulvovaginitis of Nonvenereal Origin.—Balzer observed the disease in two couples. In one case, husband and wife presented a lymphatic and arthritic constitution. The lesion started with pruritus; soon an eczematiform lesion developed in the seborrheic region of the external genital organs. Contagion was beyond doubt. A venereal origin of the lesion was excluded. The treatment consisted in applications and irrigations with astringent or alkaline solutions. Rebellious cases may probably be cured with bacteriophage corresponding to the pathogenic agent of the lesion.

Insufficiency of Gastric Leukopedesis and Ulcer of the Stomach.—Loeper and Marchal emphasize the fact that the leukocyte content of the stomach is insignificant in hyperchlorhydria; it is considerable in hypochlorhydria. Therefore, in hyperchlorhydria the defensive power of the stomach is reduced. A decreased leukopedesis is observed in seven out of nine patients with gastric ulcer. Irritation of the vagus is the main cause of leukocyte insufficiency. Indeed, vagotonia is constant in patients with a gastric ulcer. Reduction of leukopedesis is associated with retention of leukocytes in the gastric wall. Enzymes liberated by the leukocytes, favor injury of the gastric tissues. Substances inducing afflux of leukocytes to the stomach are indicated in treatment of gastric ulcer. These are preparations containing animal blood, also sweetened liquid (8 Gm. of saccharose in 100 Gm. of water). With this solution, secretion of the stomach decreases while leukopedesis reaches 2,800 leukocytes per cubic millimeter. Atrophine exerts an identical action; it is administered preferably by the mouth.

Prognostic Value of Clinical Examination and Laboratory Tests.—Ducamp gives a detailed history of a patient with fatal chronic nephritis. During the nine months of observation, the prognosis based on clinical signs was always compared with that based on analysis of the blood and urine. It appeared that the results of clinical examination agreed with those of the laboratory tests. The conclusion is that both methods of examination are equally reliable in prognosis of the disease.

54: 1925-1972 (Dec. 11) 1926. Partial Index

*Laënnec's Theory of the Pulmonary Cavity. L. M. P. Ameuille.—p. 1933.
*Laënnec's Theory of Pleurisy. A. Courcoux.—p. 1938.
*Laënnec's Work in Cardiac Pathology. P. Ribierre.—p. 1951.

This issue contains articles analyzing Laënnec's contributions to the knowledge of pulmonary diseases. Many statements of the great physician have not lost their value at the present time while certain theories have proved to be erroneous. Thus, in Ameuille's paper on the pulmonary cavity it is recalled that Laënnec considered cheesy degeneration and consecutive softening of the pulmonary tissue as necessary conditions for formation of a cavity. On the other hand, Laënnec's stethoscopic signs of pulmonary cavitation are still in force, except that of pectoriloquy. Courcoux cites Laënnec's conclusions on pleurisy. "Pleurisy is very frequently connected with the presence of tubercles in the lung." Then Laënnec added: "In severe pleurisy, profuse effusion accompanying inflammation of the pleura compresses the lung, depriving the latter of blood and lymph. Pleurisy appears rather to impede the development of tubercles by affecting the vitality of the pulmonary tissue." Laënnec foresaw the action of collapsotherapy. His work in the field of cardiac pathology is detailed by Ribierre.

Schweizerische medizinische Wochenschrift, Basel

57: 121-144 (Feb. 5) 1927

Fractures of the Diaphyses of the Leg Bones. Cornioley.—p. 121.
Besredka's Tuberculosis Reaction in Children. V. Mikulowski.—p. 131.
Tuberculin Treatment. F. Cevey.—p. 132.

Policlinico, Rome

34: 163-198 (Jan. 31) 1927

Prevention of Venereal Diseases. G. Piccardi.—p. 163.
Rhinoplasty by Flap from the Cheek. G. D'Agata.—p. 168.
Teratoid Tumor of the Thoracic Cavity. A. Bussi.—p. 169.
Francesco Redi. M. Cardini.—p. 172.
Paternoster's or Leotta's Operation? S. Solieri.—p. 176.

34: 199-234 (Feb. 7) 1927

Operation in Injury to the Heart. V. Luccarelli.—p. 199.
Hemiglossitis After Paratyphoid. E. Lo Schiavo.—p. 202.
Milk Injections in Infectious Diseases. T. Silvestri.—p. 205.
*Quinine in Malaria During Pregnancy. G. De-Vecchi.—p. 207.

Quinine in Malaria in Pregnant Women.—De-Vecchi finds that quinine does not cause abortion in the first five months of pregnancy. Even in the last months it is almost without danger, although it is advisable to counteract its ecbolic action by opiates.

34: 49-104 (Feb. 1) 1927. Medical Section

The Brain in Malaria. R. Reitano.—p. 49.
*Malaria Treatment of Leukemia. T. Lucherini.—p. 60.
Reactivation of Wassermann Reaction. A. Mucci.—p. 88.
Malaria Treatment of General Paralysis. A. Trossarelli.—p. 94.

Malaria Treatment of Leukemia.—Lucherini reports four cases of myelogenous leukemia treated with malaria. The first patient, in whom he had an apparent success, died shortly after the second inoculation. He recommends the treatment in acute and subacute cases. In chronic cases he would use it only if other methods fail.

Riforma Medica, Naples

43: 121-144 (Feb. 7) 1927

Clinical Teaching. A. Businco.—p. 121.
Hypertrophic Alcoholic Cirrhosis. A. Barlocco.—p. 122.
Endolumbar Administration of Epinephrine. P. Fornara.—p. 124.
Senile Osteomalacia. G. De Nito.—p. 126.
Roentgenography and Ureteral Calculi. O. Catalano.—p. 136.
Vaccination with Living Tubercle Bacilli. A. Ferrannini.—p. 142.

Annaes Paulistas de Med. e Cirurg., São Paulo

17: 159-199 (Nov. and Dec.) 1926

Typhoid Vaccination by Mouth. A. Moses.—p. 159.
*Spirochetes in Dysenteric Diarrhea. J. M. Gomes and S. B. Pessôa.—p. 167.

Dysenteric Diarrhea Caused by Spirochetes.—In the case described by Gomes and Pessôa, the intestinal disturbance had lasted several months. Bloody diarrhea was one of the symptoms. A number of examinations for dysentery bacilli, amebas and other flagellates proved negative. A quantity of spirochetes, however, were found in the feces. Oral administration of an arsenical preparation was followed by improvement. A recurrence also subsided under the same treatment.

Archivos Chilenos de Pediatría, Santiago

3: 415-499 (Nov. and Dec.) 1926

*Congenital Infections. C. Mönckeberg.—p. 415.
Rickets. E. D. Lira.—p. 427.
Protein Therapy. F. Patiño Mac-Iver.—p. 438.
Diagnosis of Intracraneal Injuries. A. Vial.—p. 441. C'cn.
Infant Feeding. A. Scroggie.—p. 457. C'cn.

Transmission of Congenital Infections.—Mönckeberg illustrates his studies of placental histology and microbiology with a number of colored plates. He has never found the tubercle bacillus in the blood from the umbilical cord, when the mother was tuberculous. However, on inoculation of the blood into guinea-pigs, the abdominal glands became enlarged and in five of twenty-one cases tubercle bacilli were isolated from the glands. Hereditary transmission of infections is controlled by many factors, the character of the maternal infection, the receptivity of the fetal organism, the placental bacteriolysis and transitory changes in the morphology of the bacillus. Infection of the germ cell before fecundation must be very rare, if it takes place at all.

Archivos Latino-Amer. de Pediatría, Buenos Aires

21: 1-83 (Jan.) 1927

Infant Welfare in Argentina. G. Aráoz Alfaro and A. Olaran Chans.—p. 1.
Habitual Vomiting in Infants. J. R. Mendilaharzu and R. Kreutzer.—p. 8.
*Osteosclerosis in Children. A. M. Marque.—p. 36.
Fröhlich's Syndrome in a Child. R. Rodriguez Cubiló.—p. 43.
Spina Bifida Occulta. E. Portú Pereyra.—p. 48.
Diagnostic Errors in Tuberculosis in Infants. P. de Elizalde.—p. 51.
Safe Milk for Babies. P. Rueda.—p. 61.

Osteosclerosis in Children.—The two cases reported in full by Marque are the only ones found among 25,000 admissions to the Children's Hospital. The patients were 10 and 12 years old, respectively. In both congenital syphilis seemed to be, if not the causative, at least a predisposing factor.

Arquivos Indo-Portugueses de Med., etc., New Goa

3: 1-434, 1926. Partial Index

*A Probable Cause of Lymphocytosis. V. Lobo.—p. 1.
*Diagnostic Value of the Gaté-Papacostas Test. F. Barreto.—p. 49.
Idem. F. de Mello.—p. 86.
Insect Transmission of Leprosy. J. Cabral.—p. 100.
Culture of the Bacillus of Leprosy. J. Cabral.—p. 107.
Treatment of Leprosy. J. Cabral.—p. 144.
Vitamins in Cereals Marketed in Goa. B. Dias.—p. 231.
Cercariae in the Indoplanorbis Exustus. F. de Mello and J. M. Alvares.—p. 245.
Bismuth in the Treatment of Syphilis. J. A. J. da Cruz.—p. 250.
Intestinal Parasites in the Portuguese East Indies. J. S. N. H. Rodrigues.—p. 296.
*Normal Changes in Leukocyte Counts. C. P. Fernandes.—p. 336.

Malaria and Lymphocytosis.—In addition to the eosinophilia caused by parasitic infestation, the natives of Goa often exhibit lymphocytosis. Vilanova found a latent malaria in all such cases. Arneth's method yielded variable results.

Uselessness of Gaté-Papacostas' Test.—The persons studied by Barreto included five normal subjects, five patients with tuberculosis, five with syphilis, five with malaria, ten with various skin lesions and ten with miscellaneous diseases. The "gel" test gave such inconstant results that it proved useless for diagnostic purposes. Even in the same patient the result sometimes varied in the course of a few days. If the tubes are kept, the reaction may change after forty-eight hours. The same opacity stressed by Napier in kala-azar was found in other diseases. It depends on the amount of formaldehyde added.

Possible Errors in the Leukocyte Count.—Fernandes warns that the leukocyte count does not follow a definite curve, as does the temperature. The count may vary in two slides prepared at the same time from the same drop of blood. The samples of peripheral blood from the finger, the toe and the ear may not agree. These variations may cause mistakes in diagnosis. The count in the peripheral blood is a relative factor and does not represent accurately the distribution of the same constituents in the blood secured by venous puncture.

Ars Medica, Barcelona

3: 1-32 (Jan.) 1927

*Study of Epinephrine. A. Trias Maxenchs.—p. 1.
Study of Psychoneuroses. M. Laignel Lavastine.—p. 5.
Diagnosis of Glaucoma. I. Barraquer.—p. 9.
A Case of Boyer's Fracture. J. Salarich.—p. 15.
Curettage with the Finger. S. D. Font.—p. 17.
Treatment of the Asthmatic Attack. R. Dargallo.—p. 19.

Gastric Absorption of Epinephrine.—Maxenchs' experiments on dogs apparently show that epinephrine by mouth causes a transitory increase in blood sugar. This increase is proportional to the dose. The drug should preferably be given on an empty stomach. When given orally, five to ten times as much epinephrine is required as when it is injected. As toxicity is almost nil when it is given by mouth, the drug can be used concentrated in an isotonic solution, either Ringer's or a sodium chloride solution.

Brasil-Medico, Rio de Janeiro

41: 131-152 (Feb. 12) 1927

*Pulmonary Mycosis from Oidium Brasiliense. J. Galdino Duarte.—p. 131.
A Case of Ulcus Rodens. O. Orsini and L. Machado.—p. 135.

Pulmonary Oidium Mycosis.—In a patient, aged 25, with chronic bronchoalveolitis, tuberculosis or syphilis was at first suspected. Examinations in these directions, however, proved negative. The sputum, the blood serum complement fixation and a skin test yielded positive results for *Oidium brasiliense*, the organism first described by Magalhães in 1913. The patient recovered after an iodide course.

Archiv für die gesamte Physiologie, Berlin

215: 277-456 (Jan. 7) 1927

*Hormone Action of the Suprarenal Cortex. G. Kühl.—p. 277.
*Physiology of Work. E. Atzler and R. Herbst.—p. 291.
Idem. G. Lehmann.—p. 329.
The Refractory Stage of the Heart. L. Hermann and K. Umrath.—p. 365.
Permeability of Nerve Sheaths. H. Netter.—p. 373.
Ions and Striped Muscles in the Frog. K. Zeiger and H. Schreiber.—p. 386.
Nervous Chemoreceptors in the Mucosa of the Small Intestine. W. Borchardt.—p. 402.
*Fasting Motility of the Small Intestine. E. I. Sinelnikoff.—p. 427.
Pancreas Extirpation and Insulin Sensitiveness. Z. Aszodi and Z. Ernst.—p. 431.
*The Brain and the Sympathetic. Einthoven et al.—p. 443.
A Female Sex Hormone. S. Loewe et al.—p. 453.

The Hormone Action of the Suprarenal Cortex.—The curves of respiration and the muscle twitching of living suprarenalectomized animals clearly indicate the onset and course of suprarenal insufficiency. On this basis Kuhl studied the hormone action of the suprarenal cortex on suprarenalectomized guinea-pigs. Cortical extracts, which did not contain epinephrine, counteracted the symptoms of suprarenal insufficiency, i. e., disturbance of muscle dynamics and respiratory abnormalities. Epinephrine, extracts of other organs, dextrose, etc., were without effect.

Studies in the Physiology of Work.—Using the Zuntz-Geppert respiration apparatus, Atzler and Herbst studied on one experimental subject the economy of walking and of pulling and pushing loads on a horizontal surface. The most favorable rate of speed in walking was 87.5 steps per minute; the optimum length of a step, 58.7 cm., and the optimum velocity, 51.4 meters per minute. The optimum load in both pushing and pulling was 14.5 Kg.

Fasting Motility of the Small Intestine in Man.—After construction of an artificial esophagus in a woman from a piece of the small intestine, according to the Roux-Gerzen operation, Sinelnikoff studied the intensity and number of intestinal contractions and tonic changes. Six months after the operation there was a prolongation both of the period of fasting motility, which lasted for from twenty to twenty-five minutes, and of the period of rest, which lasted for from sixty to eighty minutes. Two and one-half years after the operation, the period of rest lasted from one and one-half to two hours and that of fasting motility for from fifteen to twenty-five minutes. The intestinal contractions were more marked than they had previously been. The rhythm of the fasting motility of the intestinal segment remained constant at ten contractions per minute. The tonus was increased at the beginning of the contractions. The mucous membranes of the intestine were pale pink during the rest periods, but became deep red at the beginning of the fasting periods.

The Brain and the Sympathetic.—Einthoven and Hoogerwerf present a new model of a string galvanometer in which the string is situated in a vacuum and which registers the type of tonus and action currents of nerves in the bodies of mammals. Experiments on cats indicated that stimulation of hypothalamic centers was followed by action currents of the cervical sympathetic. This is a new confirmation of the fact that the hypothalamic centers influence the eye by direct stimulation of the sympathetic.

Archiv für klinische Chirurgie, Berlin

143: 245-532 (Nov. 29) 1926

*Osteitis Fibrosa. F. Mandl.—p. 245.
Cysts of the Pancreas. H. Müller.—p. 285.
*Growth and Pathogenicity of Bacteria. W. Löhr.—p. 331.
Surgical Treatment of Trigeminal Neuralgia. H. Peiper.—p. 384.
Surgery of the Biliary Tract. J. Petermann.—p. 403.
Renal Calculus and Renal Tuberculosis. K. Mészáros.—p. 415.
Surgical Treatment of Fracture of the Patella. S. Girgolaw and A. Wereschinski.—p. 428.
*Gastric Juice Acidity and Hemoglobin Resistance. Breitländer.—p. 434.
*Incarceration of a Calculus in the Ureter. Z. Kairis.—p. 439.
Sacrococcygeal Chordoma. R. Andler.—p. 467.
*Diagnosis of Primary Suprarenal Tumors. V. Schmieden and H. Peiper.—p. 491.
Torsion of the Pedicle of the Gallbladder. A. Grunert.—p. 527.
Plastic Repair After Extirpation of Os Calcis. J. E. Schmidt.—p. 530

The Parathyroids and Osteitis Fibrosa.—Mandl discusses the relations between the parathyroids and diseases of the bone, and collects from the literature forty-four cases in which enlargement of the parathyroids was associated with rickets, osteitis deformans, osteomalacia, senile osteoporosis or generalized osteitis fibrosa. He describes a case in which he removed a parathyroid tumor on therapeutic grounds in a severe case of generalized osteitis fibrosa. The excretion of calcium in the urine had decreased five-sixths a few days after the operation. The general condition underwent remarkable improvement, the pains became slight and came on only at times of changes in the weather. Motion has entirely returned in the joints of the extremities and the patient, who before the operation could neither stand nor walk, can now stand without difficulty and walks with a cane and a crutch. This case seems to destroy the validity of Erdheim's theory of compensatory hypertrophy on the part of the parathyroids. Animal experiments aiming to produce pictures similar to osteitis fibrosa by trauma and washing out the marrow were negative. The pictures were obtained when coagulation of the blood was retarded by injections of citrate.

Growth and Pathogenicity of Bacteria.—Löhr's researches lead him to the assertion that it is possible to alter the character of the normal bacterial flora in the human organism by altering the medium. The change in the character of the flora may be temporary or permanent, according as the change in the character of the medium is temporary or permanent. In the upper gastro-intestinal tract the degree of acidity of the gastric juice was found to be the decisive factor for the flourishing or dying off of the flora. So reliable is the correspondence between the bacterial picture and the degree of acidity, that the bacteriologic examination can serve as a biologic test of the conditions of acidity in the stomach. Special studies were made of the streptococci, staphylococci and colon bacilli. In the stomach and duodenum the lactic acid variety was by far the most prevalent of the streptococcus group. It was experimentally proved to be nonpathogenic for man, even in the form that is morphologically indistinguishable from pathogenic cocci. Bacilli sensitive to acid, in particular hemolytic streptococci, when in a medium unfavorable to their growth, experience at first merely an inhibition of growth, a relatively long time passes before they die. During the interval they are held in check, but their nature is not altered. If an "acid stroke" is to be of therapeutic value, it must be inflicted on the bacilli at a time when the organism is still able to cope with the invader in the numbers in which it already exists and there must not be a source from which the bacilli are constantly reinforced. Schönbauer's treatment of diffuse peritonitis by lavage of the abdominal cavity with pepsin-hydrochloric acid depends on these conditions for success. It is the hydrochloric acid, not the pepsin, Löhr asserts, that is effective. He recommends lavage with 0.3 per cent hydrochloric acid. Experiments are in progress in the treatment of suppurating wounds by pouring in serum lactis to which lactic acid bacilli have been added.

Gastric Juice Acidity and Hemoglobin Resistance.—In twenty cases of anacidity induced by gastric resection, Breitländer failed to find any change in hemoglobin resistance.

Consequence of Incarceration of a Stone in the Ureter.—The ureters of dogs were plugged by the insertion of specially made rods, which is a more physiologic substitute for calculus incarceration than is ligation. The kidneys concerned, removed after from three days to four weeks, presented dilatation of the pelvis or hydronephrosis. Rapid, primary atrophy was not observed in any case. The same changes were seen when grooved or tunneled rods were used, but they did not appear as early. Reflex anuria did not occur. In the other kidney compensatory hypertrophy was occasionally observed, but nothing further.

Diagnosis of Primary Tumors of the Suprarenals.—Schmieden and Peiper describe five cases of primary tumor of the suprarenal body, one a blood cyst in a child 5½ months old. In the three cases in which it was employed, pneumoperitoneum led to correct diagnosis, either with certainty or great probability. The authors consider it of the greatest value in the diagnosis of these tumors. By control of the vascular supply in situ the origin of the tumor in the suprarenal body may be determined during operation. Precocious puberty is seen in children, sex inversion in women with carcinoma of the cortex. Crises of pain are occasioned by pressure of a suprarenal tumor on the thoracic or lumbar nerve roots. Bronzing of the skin is a not unusual symptom. Hematuria may be present.

Beiträge zur klinischen Chirurgie, Berlin

138: 1-192, 1926

Neurinomas. M. Borchardt.—p. 1.
*Treatment of Sarcoma. W. Wollner.—p. 39.
Healing of Joint Fractures. M. L. Mason.—p. 58.
Giant Cell Tumors of the Thyroid. R. Becker.—p. 76.
Results of Treatment of Fractures of the Femur. T. Fritz.—p. 82.
*Treatment of Pleural Empyema. B. Oelschlägel.—p. 91.
*Effects of Decapsulation in Experimental Renal Injuries. S. Joseph and E. Rabau.—p. 98.
The Surgery of Celsus. E. Melchior.—p. 120.
Operative Treatment of Gastrocolic Fistula. M. Meischke.—p. 139.
*Passive Immunity to Trypsin Poisoning in Acute Necrosis of the Pancreas. E. Harms.—p. 148.
Hemorrhage of the Spleen Occurring Twelve Days After Trauma. A. Schlegel.—p. 163.
Manner of Spread of Necrosis of the Fatty Tissue of the Pancreas. P. Rostock.—p. 171.

Treatment of Sarcoma.—Wollner reports that three of the eight patients described by Schlegel in 1920 as clinically cured are still living. The tumors were, respectively, sarcoma of the nasopharynx, periosteal large round cell sarcoma of the femur, and round cell sarcoma of the clavicle. The first two had been treated exclusively by roentgen rays; in the third case, operation had had to be abandoned before completion, and roentgen irradiation had then been used. He

analyzes sixty cases treated in the last ten years. In twenty-seven the origin was in the bone, in five in the lymph glands, in five in glandular organs, in three in the skin; in the remainder the tissue of origin was uncertain. Twenty-one patients were treated by surgery alone; of these, 28.5 per cent are alive and free from recurrence after five years. Thirty-nine patients received roentgen irradiation alone or combined with surgery. The five-year cures in this group amounted to 12.8 per cent; with omission of the inoperable cases, to 18.5 per cent. Twenty per cent of all sarcomas are refractory to roentgen rays. In general, the nearer the cells approach the embryonic type, the more sensitive they are to the rays. Lymphosarcomas respond especially well.

Treatment of Empyema of the Pleura.—Oelschlägel believes that open thoracotomy still merits a place as one of the best methods of treating pleural empyema. The indications for its use are wide and its dangers (particularly those of open pneumothorax) have been, in his opinion, much exaggerated.

Effects of Decapsulation in Experimental Injury to the Kidney.—By administering a lethal dose of mercuric chloride fractionally, Joseph and Rabau were able to induce high grade anatomic changes in the kidneys of their rabbits and to keep the animals alive long enough for the purposes of the experiments. Decapsulation performed twenty-four or forty-eight hours after the last dose of the poison, at the time when the symptoms were most pronounced, was without effect on the symptoms or pathologic picture of the poisoning. When, on the other hand, decapsulation was done earlier, on the day following the first injection, when the signs of renal lesion, though apparent, were less striking, three of the four rabbits of the series remained alive, in spite of having received the full lethal dose, and the pathologic picture in the case of the fourth rabbit showed clearly the influence of the decapsulation. Nonspecific stimulation, by roentgen irradiation and aseptic wounds, did not effect the progress of the poisoning.

Passive Immunity to Trypsin Poisoning in Acute Necrosis of the Pancreas.—Harms induced acute necrosis of the pancreas in dogs by extensive resection and implantation in the abdominal cavity. Into these animals he injected serum from dogs that had been treated with large doses of trypsin over a long period. The animals died, in spite of the injections. These results contradict those obtained by Olno. Harms reviews the literature on immunization to trypsin intoxication.

Deutsche medizinische Wochenschrift, Berlin

53: 179-218 (Jan. 28) 1927

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*Glycemia and Diseases of the Stomach. M. Rosenberg and A. Kallner. —p. 183.
*Heat Regulation in the Intestinal Tract. A. Fürstenberg.—p. 184.
*Thrombophlebitis and Sepsis After Angina. R. Stahl.—p. 186.
The Blood Picture in Infants. A. Löwenthal.—p. 187.
Acidity of the Vagina and Gonorrhea. F. Schultze-Rhonhof and E. Bachl. —p. 189.
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Surgery of Sagging Stomach and Liver. W. Gross.—p. 196.
Ileus from Meckel's Diverticulum. O. Kingreen.—p. 197.
Benign Thrombosis of Upper Extremity. B. Finkelstein.—p. 198.
Vertigo and the Suprarenals. Recurrence of Landry's Paralysis. Steinthal.—p. 199.
Psychiatry. H. Krisch.—p. 200.
Standardization and Nursing. W. Hoffmann.—p. 201.
*Sauerbruch's Intuition. Goldscheider.—p. 203.

Glycemia and Diseases of the Stomach.—Rosenberg and Kallner found gastric ulcer or nervous irritability of the stomach only rarely in diabetes (in about 1 per cent of the patients). About one quarter of their patients with innocuous glycosuria had these disturbances. Lability of the vegetative nervous system might be the cause of both phenomena in the latter group.

Heat Regulation in Intestinal Tract.—Fürstenberg measured the temperature in the stomach after administration of fluids of different temperatures. The equilibrium is restored more rapidly after cold drinks than after hot drinks. For instance, it was restored in twelve minutes after administration of 200 cc. of tea at 30 C., and in fifteen minutes after drinking an equal amount of tea of a temperature of 40 C.

Thrombophlebitis and Sepsis After Angina.—If septic temperatures and chills occur when a tonsillitis is healing or healed locally, Stahl advises immediate ligation of the jugular vein of that side, before the symptoms of thrombosis appear.

Sauerbruch's Intuition.—Goldscheider attacks Sauerbruch's pronouncement of the superiority of intuition over the scientific method in treatment. He points out that the thermometer long ago supplanted a part of the physician's direct observation. In a similar way the physical, chemical and biologic methods were bound to take the place of the more primitive observation, because they were better. Nobody denies that future physicians must be schooled to use their senses. It is a fundamental mistake to begin with a roentgenogram instead of with percussion and auscultation. Nevertheless, Sauerbruch errs when claiming that the morbid phenomena can be understood only qualitatively—not by figures and measures. He apparently does not know about the progress which has been made in this direction in nephritis, diabetes, blood diseases, etc. Clinical teaching can consist only in showing the student how to discover symptoms by conscientious and methodical examination and how to utilize them for diagnosis. It is possible to teach students to do reliable work; it is impossible to teach them to become geniuses. Intuition is superior to painstaking work because of its creative value, but it is inferior in its truth value, until confirmed by methodical investigation. A completely scientific treatment is impossible except as a general outline; the individuality of the patient will always require art. Dogmatic treatment is a sign of lack of medical talent, a disdain for science is the earmark of a charlatan. Sauerbruch declares that his suggestions will restore to the German people the good physician. Goldscheider says, ironically, that he likes this sentiment at a time when the German people is doing everything possible to ruin the medical profession. He asks to be shown which type of good physician of the German past Sauerbruch means: whether the one who was drowned in the dogmatism and book wisdom of his time, or the one who felt the vital force in the pulse; the one who treated according to unprincipled empirism or the one whose principle it was to treat all the symptoms—the fever by antifebrile drugs, the heat by ice bags, the pains by morphine, diphtheria by application of silver nitrate, who did not recognize the healing tendency in the morbid symptoms, who did not know anything about dietetics, physical therapy nor the influence of the mind, and who transferred the infection from one parturient to the other. He cannot find the ideal physician in the past.

Klinische Wochenschrift, Berlin

6: 145-192 (Jan. 22) 1927

Carbon Monoxide and the Central Nervous System. A. Meyer.—p. 145.
Water Metabolism and Thirst. E. Starkenstein.—p. 147.
Interrelations of Nevi. H. W. Siemens.—p. 153.
*Insulin in Hepatic Diseases. O. Klein and H. Holzer.—p. 157.
Paratyphoid Carriers and Introduction of Colon Bacilli. G. J. Pfalz.—p. 158.
*Tonsillectomy in Peritonsillar Abscess. W. Anthon.—p. 163.
Action of Turpentine Abscesses. H. Wendt and F. Weyrauch.—p. 165.
"Vertical Duction and Nausea." E. Spiegel.—p. 167.
Cholemia. H. Wildegans.—p. 167.
Blood Groups in Schizophrenia and Paralysis. E. Wilczkowski.—p. 168.
Polycythemia in Acromegaly. J. Neuburger.—p. 168.
Proctosigmoidoscopy. H. Strauss.—p. 170.
Isolation in Open Tuberculosis. F. Goldmann.—p. 172.
Use of Sugar Breakfast. F. Depisch.—p. 191.

Insulin in Hepatic Diseases.—Klein and Holzer administered large doses of insulin (from 60 to 100 units daily) to patients with diseases of the liver. The jaundice was influenced beneficially in almost all of them, including some with cirrhosis and cancer. The patients easily become hypoglycemic, even with a large carbohydrate intake.

Tonsillectomy in Peritonsillar Abscess.—If incision and trial punctures do not result in the localization and evacua-

tion of the abscess, and if there is danger of complications, Anthon performs tonsillectomy, even in the acute stage.

6: 193-240 (Jan. 29) 1927

Antagonism and Synergism of the Vegetative System. E. Schilf.—p.193.
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Muscular Dystrophy and Extrapyramidal Syndrome. A. Westphal.—p. 198.
Experimental Recurrens. R. Strempel and G. Armuzzi.—p. 200.
*Action of Ergotamine on Pulse and Blood Pressure. W. Zorn.—p. 204.
Development of the New-Born in Diseases of the Mother. H. Goldschmidt.—p. 206.
Action of Histamine and Alcohol on Gastric Glands. A. Bickel.—p. 208.
Valve for Obtaining Samples of Alveolar Air. W. Mobitz.—p. 209.
Theory of Gold Sol Reaction. E. Epstein and H. Rubinstein.—p. 209.
"Fatal Hypoglycemia." W. Beck.—p. 212.
"Nonspecific" Reaction of Serums. A. J. Weil.—p. 213.
Photoactivity of the Brain. M. de Crinis.—p. 213.
Blood Sugar in Infectious Diseases. J. Andresen and A. Schmidt.—p. 213.
Protective Substances in Cancer. A. Braunstein.—p. 214.
Typhoid Meningitis. A. Schweisgut.—p. 215.
Deep Action in Treatment of Gonorrhea. C. Siebert.—p. 217.
Serum Proteins. T. Geill.—p. 220.
Health Statistics. K. Freudenberg.—p. 239.

Action of Ergotamine on Pulse and Blood Pressure.—Increase in blood pressure lasting for about an hour and bradycardia were found regularly by Zorn after intravenous injections of ergotamine tartrate. This divergence of the curves of blood pressure and pulse is characteristic. Intravenous injection of calcium chloride seems to act as antagonist to the action of ergotamine.

Medizinische Klinik, Berlin

23: 81-116 (Jan. 21) 1927

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Permeability of the Meninges. V. Kafka.—p. 83.
Anhydro Type of Carbohydrates in Diabetes. F. Wagner.—p. 84.
Treatment of Chronic Otitis Media. Birkholz.—p. 87.
Large Fibroma of the Stomach. F. Pendl.—p. 90.
*Workmen in Zinc Foundries. Eisenstädt.—p. 91.
Acute Necrosis of the Pancreas. K. J. Hoffmann.—p. 92.
Fresh and Aged Mineral Water. A. Bickel.—p. 94.
Wassermann Reaction in Malaria. J. K. Mayr.—p. 94.
Blood Changes in Endocrine Diseases. G. Kühn.—p. 95.
Traumatic Tuberculosis of the Skin and Soft Parts. F. Zollinger.—p. 99. C'cn.
Pathology of Typhoid. S. Gräff.—p. 101.
Centenary of Laënnec. C. Benda.—p. 114.

Workmen in Zinc Foundries.—Lead poisoning is rare among these workmen. "Foundry fever," beginning a few hours after the melting of the zinc and resembling febrile influenza is not infrequent. The workmen believe that it has a favorable influence on syphilis and tuberculosis. Albuminuria is frequent among them.

Mitteilungen a. d. Grenzgeb. der Med. und Chir., Jena

40: 1-130, 1926

Periarterial Sympathectomy. B. Pfab and O. Hoche.—p. 1.
Familial Hemolytic Icterus. Doll.—p. 12.
*Postoperative Retention of Urine. A. Jalowitz.—p. 34.
Appendicitis and Extra-Uterine Pregnancy. A. L. Schmid.—p. 43.
Constitutional Types and Surgical Diseases. H. Hueck and F. Emmerich.—p. 56.
*Hemoglobin Resistance. H. Bischoff and K. Breitländer.—p. 67.
Serous Meningitis and Myelography. F. Hiller.—p. 73.
Increase of Antibodies from Blood Transfusion. P. Moritsch and O. Hoche.—p. 80.
Hydrogen Ion Concentration in Inflammation. C. Rohde.—p. 85.
Surgery of Typhoid. B. Breitner.—p. 99.
Problem of Tetany. A. Jalcowitz.—p. 120.
Resorption Speed from Cold Abscesses and Benign and Malignant Tumors. F. Starlinger and J. Urbanek.—p. 124.

Postoperative Retention of Urine.—A number of factors are usually associated in inability to urinate after a surgical operation. The morphine administered is not alone responsible. General postoperative tendency to spasm, manifesting itself as spasm of the vesical sphincter, may be to blame, or the spasm may be of reflex nature (after operations in the vicinity of the bladder) or of psychic origin. Jalowitz disapproves of the practice of catheterizing a patient for the sole reason that he has not urinated spontaneously within a certain number of hours. The fulness of the bladder and the desire to urinate are the factors on which the decision to catheterize should rest. Twenty-three cases were treated with ammonium chloride; the treatment failed in only three. Two grams were given by mouth, or 4 Gm. by rectum every hour until micturition occurred, which was seldom longer than four hours. Suggestion and application of the thermophore to the region of the bladder should supplement the ammonium chloride treatment, for the reason that, as stated, the cause of postoperative retention of urine is seldom single.

Hemoglobin Resistance.—Bischoff and Breitländer made studies on one hundred adults, chiefly surgical patients. The effect of ether or local anesthesia on hemoglobin resistance was investigated in ten cases and found to be nil. In many surgical conditions, particularly the chronic, including malignant tumors and tuberculosis, and in general cachexia and secondary anemia there was no change. In pernicious anemia the resistance was raised; the same was true in some cases of inflammatory diseases of the liver, particularly of the bile ducts. The decomposition time was lengthened in all cases with extravasation of blood. The lengthening seemed to be in direct proportion to the size of the hematoma. It was found at the earliest three days after the trauma or operation and receded with the clinical symptoms.

Münchener medizinische Wochenschrift, Munich

74: 175-222 (Feb. 4) 1927

Heart Poisons and Thermodynamics. H. Bohnenkamp.—p. 175.
Epidemiologic Problems, Especially in Typhoid. E. Friedberger.—p. 180.
Enrichment Method for Typhoid Group. A. Nissle.—p. 185.
Auricular Fibrillation After Operation on Goiter. R. v. Hösslin.—p. 186.
Treatment of Influenza. Trumpp.—p. 188.
Herpes Zoster and Chickenpox. J. Siegl.—p. 189.
*Synthetic Ephedrine. H. Kreitmair.—p. 190.
Common Ileocolic Mesentery. R. Janker.—p. 192.
Cancer in Tuberculous Cavities. E. Basch.—p. 193.
Bacteriology of Pemphigus in Infants. M. Richter.—p. 194.
Roentgen-Ray Technic. J. Schneider.—p. 195.
Frame for Films. A. Nussbaum.—p. 195.
Neurosyphilis and Absence of Cutaneous Manifestations. F. Bruck.—p. 196.
Dark Adaptation Technic in Roentgenoscopy. P. Stumpf.—p. 196.
Correction. E. Heilner.—p. 196.
Psychic Injury to the Surgical Patient. A. Krecke.—p. 197.

Synthetic Ephedrine.—Kreitmair reports on the properties of a synthetic preparation which differs from ephedrine only by the absence of optic activity. The pharmacologic action of this racemic product is identical with that of active ephedrine.

Wiener klinische Wochenschrift, Vienna

40: 149-180 (Feb. 3) 1927

*Posterior Wall of the Heart and Heart Sounds. S. Bondi.—p. 149.
Calmette's Immunization Against Tuberculosis. H. Schroetter.—p. 151. C'td.
Open and Closed Tuberculosis. E. Loewenstein.—p. 155.
Caffeine and the Vegetative System. R. Dreikurs.—p. 156.
Varicosities of the Esophagus. K. Hermann.—p. 160.
Pharmacotherapy of Asphyxia in the New-Born. E. Kästenbaum.—p. 161.
*Roffo's Serodiagnosis of Cancer. O. Bajc.—p. 163.
Lead Poisoning. J. Adler-Herzmark.—p. 164.
Blunders in Treatment of Gonorrhea. A. Glingar.—p. 166.
Sedimentation Speed of Erythrocytes. A. V. Frisch.—p. 167.
Constitutional Nutritional Disturbances in Infants. R. Lederer. Supplement.—pp. 1-12.

Posterior Wall of Heart and Heart Sounds.—Bondi constructed an apparatus for auscultation of the heart from the esophagus. The systolic murmur of mitral stenosis is heard by it much better and in a different pitch than by the usual auscultation on the anterior wall of the thorax. He concludes from his models that this murmur is caused by a concussion of the posterior wall of the heart by the blood stream. In an analogous way the presystolic murmur of mitral stenosis is perhaps due to the vibrations of a limited portion of the anterior wall of the heart.

Roffo's Serodiagnosis of Cancer.—Bajc used Roffo's neutral red test in thirty-three patients. The results were wholly unreliable.

Zeitschrift für Kinderheilkunde, Berlin

42: 505-683 (Dec. 23) 1926

*Prognosis of Scrofulosis. F. Kruse.—p. 505.
Comment on the Previous Article. E. Nobel.—p. 521.
Diplococcus Peritonitis. J. K. Friedjung.—p. 523.
Dry Pleurisy in Childhood. J. Fertig and A. Katzmann.—p. 530.

Relation of Respiration in Childhood to the Acid-Base Equilibrium in the Blood. E. Helmreich.—p. 536.
Ambulatory Treatment of Congenital Syphilis. J. Cassel.—p. 541.
Action of Lipoids on Puppy. H. Buschmann.—p. 568.
Irradiated Cow's Milk and Oxygen Consumption of Intestinal Cells. H. Vollmer and S. Lee.—p. 574.
Encephalography in Childhood. P. Dannenbaum.—p. 578.
*Treatment of Renal Diseases in Children. F. Basch.—p. 589.
*Melaena Neonatorum with Ulcer of Esophagus. S. Diamantopoulos.—p. 606.
Immunization by Dick Toxin. E. Nobel and F. Schönbauer.—p. 622.
Relapsing Fever in Children. G. S. Levy.—p. 627.
Cholesterol Metabolism and Involution of the Suprarenal Cortex in Infants. M. Weber.—p. 633.
Subcutaneous Fatty Tissue Necrosis in Infants. J. Bernheim-Karrer.—p. 658.
Diffuse Phlebectasia. H. Orel.—p. 668.
Pylorospasm Complicated by Malaria. H. Heinemann.—p. 672.
Mongolian Spots in a Twin. L. Silber.—p. 674.
Treitz's Hernia in Miliary Tuberculosis. F. Liebers.—p. 676.
Venous Murmur in the Skull. W. Lütjohann.—p. 680.

Prognosis of Scrofulosis.—Scrofulosis was found in the history in 14 per cent of Kruse's eighty cases of children suffering from open pulmonary tuberculosis. He reports eight typical cases of open and five of closed pulmonary tuberculosis, one case of severe, highly fibrous peritoneal tuberculosis and one of a solitary tubercle of the brain in a child who had recovered from scrofulosis. Scrofulosis represents a highly allergic type of secondary tuberculosis, the prognosis of which is not more favorable than that of active tuberculosis in the child.

Treatment of Renal Diseases in Children.—Basch's renal function tests on nephritic children indicated in ten cases out of eleven that the excretion of sodium iodide increased, on the average, 50 per cent when the patient became ambulant. In thirty children suffering from kidney diseases active movements effected a marked improvement in diuresis, appetite and general condition. Hematuria and albuminuria were favorably influenced by the treatment and finally disappeared. The duration of the illness was considerably shortened. The children were permitted to leave their beds on the fifth to the fourteenth day of the disease, according to symptoms and condition. They remained up from the forenoon until late in the afternoon, except for two hours' rest at dinner time. The author believes in the value of active movements to improve diuresis in children suffering from renal disease, when medication fails, even though the condition is fibrous or there is albumin or blood in the urine.

Melaena Neonatorum and Ulcer of Esophagus.—Diamantopoulos reports the case of a new-born infant who died from hemorrhage shortly after birth. The condition was diagnosed as melena. The postmortem examination revealed esophagitis and ulcer and hemorrhage of the esophagus. Engorgement during birth had evidently produced fissures of the epithelium and slight hemorrhages in the mucous membrane of the lower part of esophagus, followed by penetration of bacteria. The hemorrhage and the ulcer were consequently caused by primary infection. The author reports twelve cases from the literature, in which melaena neonatorum occurred with ulcer of the esophagus. He concludes that histologic examination would markedly reduce the number of cases previously considered as idiopathic melena.

Zeitschrift für klinische Medizin, Berlin

105: 1-300 (Feb. 9) 1927

Indirect Test of Galvanic Excitability. R. Hopmann.—p. 1.
Elasticity of Lungs in Vivo. K. v. Neergaard and K. Wirz.—p. 35.
Resistance of the Respiratory Passages to Inspiration and Expiration. K. v. Neergaard and K. Wirz.—p. 51.
*Pathogenesis of Gout. F. Heydkamp.—p. 83.
Uric Acid Problems. H. Wüscher.—p. 91.
*The Blood Picture in Coma. K. Barner.—p. 102.
Gastro-Intestinal Origin of Pernicious Anemia. R. Ehrström.—p. 106.
Neutrophils in Pernicious Anemia. A. Hittmair.—p. 118.
Metabolism in Anaphylaxis and Protein Treatment. E. Leschke.—p. 123.
Mixed Infection with Typhus and Recurrens. J. Oettinger and J. Halbreich.—p. 136.
Serum Proteins and Plasma in Fever. W. Berger and O. Galehr.—p. 154.
Determination of Uric Acid. B. Huschke.—p. 180.
Acute Erythemas and Arsenic. E. F. Müller.—p. 192.
*Uricemia and Constitution. D. M. Grotel.—p. 217.
*Blood Cholesterol and Constitution. A. L. Mjassnikow.—p. 228.
Blood Calcium in Nephritis. H. A. Salvesen.—p. 245.
Pernicious Anemia. M. Binswanger.—p. 249.
*Fibrinogen in Anemias. E. Loewenstein.—p. 261.
Experiments in Seasickness. F. K. Colley.—p. 267.
Pyemic Metastases in the Brain and Extremities. H. Offergeld.—p. 273.
"Weight and Serum Proteins in Tuberculosis." R. Meyer-Bisch.—p. 291.
Reply. A. Salomon.—p. 295.

Pathogenesis of Gout.—Injections of uric acid derivatives did not give decisive results in Heydkamp's experiments. It seems that these compounds have a specific dynamic action, which results in the excretion of a larger amount of uric acid than would be expected from the amount injected. At any rate, indications of uricolysis were not found.

Blood Picture in Diabetic Coma.—Barner found a considerable shifting of the neutrophils toward younger forms (up to promyelocytes) in precomatous conditions and in coma.

Uricemia, Blood Cholesterol and Constitution.—Grotel found about 50 per cent more uric acid in the blood from healthy subjects with a hypersthenic constitution than in that from asthenics. Mjassnikow found a similar relation in regard to blood cholesterol.

Fibrinogen in Anemias.—Loewenstein, using Starlinger's method, found from 0.4 to 0.45 per cent of fibrinogen in normal blood plasma. The highest concentration (1.3 per cent) was observed in a case of chronic pneumonia with amyloidosis. Pernicious anemia patients have a low fibrinogen concentration (0.2 to 0.3 per cent). Diffuse diseases of the parenchyma of the liver, endocrine disturbances and anaphylactic shock are also associated with hypinosis.

Zeitschrift für Tuberkulose, Leipzig

47: 1-96 (Jan.) 1927

*Roentgenotherapy in Pulmonary Tuberculosis. K. von Holten.—p. 1.
*Immunization Against Tuberculosis. A. Moeller.—p. 8.
Paths of Infection. H. Beitzke.—p. 18.
Comment on the Previous Paper. P. Huebschmann.—p. 23.
Primary Extrapulmonary Tuberculosis with Nonspecific Giant Cell Pneumonia. E. Nowotny.—p. 25.
*Refilling of Pneumothorax. K. Kremer.—p. 33.
Crusade Against Tuberculosis in the United States. L. Rabinowitsch-Kempner.—p. 34.
Cooperative Research of the National Tuberculosis Association in the United States. W. C. White.—p. 38.

Roentgenotherapy in Pulmonary Tuberculosis.—For the last six years a large number of Holten's tuberculosis patients have been treated with roentgen irradiation during their sanitarium residence. In the first series of treatments he irradiates only one field and uses small doses, increasing the latter from 6 to 9 per cent, and finally to 12 per cent of the erythema dose. The average duration of the treatment was ninety-six days for female patients and eighty-eight days for male patients. Of 353 patients, of which 29 per cent were in the first stage, 58 per cent in the second stage and 13 per cent in the third stage, 70 per cent became able to continue their work. The author attributes this, at least partially, to the effect of the roentgen rays.

Active Immunization Against Tuberculosis by Means of Virulent Tubercle Bacilli.—Moeller based his experiments on the facts that (1) primary tuberculosis of the skin (lupus and scrofuloderm) usually produces immunity against tuberculosis of the internal organs and vice versa; (2) the different courses taken by pulmonary tuberculosis depend on a varying affinity to tubercle bacilli of cells that are susceptible to tuberculosis; (3) only living, fully virulent tubercle bacilli produce tuberculosis immunity. In an experiment on himself, the author found that intracutaneous infection of the arm with fully virulent tubercle bacilli ran a favorable course. Fifteen persons consented to similar experiments. The material consisted of five patients with open and five with closed tuberculosis and five persons who had been exposed to tuberculous infection. The immunization was performed in the following way: After ether disinfection a small area of the skin of the arm was scarified with a scalpel and an inunction of 100,000 tubercle bacilli given. This was repeated, with fourteen day intervals, for about one and one half years. The scar healed after a couple of days. The tubercle

bacilli disappeared in from five to six days after the inunction. Suppurations, fever or reactions did not occur. The treatment had a favorable effect on the tuberculous patients. There was improvement in the general condition, increase in weight, night sweats disappeared, and the number of bacilli in the sputum decreased. The five patients who had been exposed to tuberculous infection but in whom tubercle bacilli had not been found, have not developed any of the phenomena of tuberculosis since the inunctions, a period of about one year.

Refilling of Pneumothorax.—Kremer employs the following technic: The operation is performed under local anesthesia. The anesthetic is injected gradually with repeated aspirations until air bubbles appear in the syringe, indicating that the air space is located. The syringe is removed from the needle, the latter connected with the air tube of the pneumothorax apparatus and the refilling takes place.

Zentralblatt für Chirurgie, Leipzig

54: 1-64 (Jan. 1) 1927

Action of Hydrochloric Acid on Bacteria. W. Löhr and G. Löhr.—p. 2.
Operation for Diverticulum of the Bladder. W. Koennecke.—p. 10.
Reflex Closure of the Pylorus as Functional Test of Pancreas and Liver. A. Jarotzky.—p. 11.
Regeneration of Bone. B. Pfab.—p. 14.
Slight Injuries from Being Run Over by an Automobile. O. Dieter.—p. 19.
*Dilation of Papilla Vateri with Fatal Result. Rost.—p. 20.
Prevention of Genu Recurvatum After Osteotomy on the Tibia. J. Rey.—p. 21.

Dilation of Papilla Vateri After Choledochotomy.—Rost has abandoned his former practice of dilating Vater's papilla and suturing the common bile duct after choledochotomy. A patient on whom this was done in an operation for stone in the duct died twenty-four hours later from acute hemorrhagic necrosis of the pancreas. The necropsy made it clear that the instrumental dilation of the papilla had caused it to swell and become not more, but less permeable. The gallbladder became congested with bile, which finally made its way between the sutures into the abdominal cavity. At the same time the pancreatic duct, which, by ill fortune, opened into the common bile duct, became choked with bile, and hemorrhagic necrosis of the pancreas resulted.

Zentralblatt für innere Medizin, Leipzig

48: 105-136 (Jan. 29) 1927

Nephrotyphoid. F. Deutsch.—p. 106.
*Chemistry of Blanching Phenomenon. W. Schultz.—p. 117.

48: 137-168 (Feb. 5) 1927

Vitamins and Avitaminosis. K. Harpuder.—p. 138.

Chemistry of Blanching Phenomenon.—Schultz found that the blanching phenomenon described by himself and Charlton is due to the globulins of the human convalescent's serum. The immune serums from horses contain the active substances in all the fractions of the serum. The pseudoglobulin fraction has the highest activity, the albumin fraction the lowest.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

71: 701-820 (Feb. 5) 1927

"Sanocrysin" Treatment. G. Scheltema and H. E. Rookmaker.—p. 702.
School Hygiene. M. van der Hoeve.—p. 711.
Modern Statistical Methods. L. Leopold.—p. 715.
Instruments Depicted in Guy De Chauliac's Manuscripts. J. G. de Lint.—p. 724.
Auscultatory Examination in Obstetrics. G. C. Nijhoff.—p. 750.

71: 821-916 (Feb. 12) 1927

Surgical Treatment of Sarcoma. T. de Waard.—p. 822.
*Osmotic Pressure of the Blood and Pressure in the Cranial Cavity. J. J. H. M. Klessens.—p. 836.
Relationship, Heredity and Lenz's Law in Retinitis Pigmentosa. F. Wibaut.—p. 843.
Treatment of Lichen with Roentgen Rays According to Gouin. M. Nijkerk.—p. 848.
A Case of Sudden Increase in Brain Pressure. C. Schaap.—p. 852.

Connection Between Osmotic Pressure in the Blood and the Pressure in the Cranial Cavity.—Intravenous injections of hypotonic solutions of sodium chloride increase the pressure in the cranial cavity, hypertonic solutions decrease the pressure and isotonic solutions do not produce any changes. Klessens employed salt solutions on this basis to counteract disturbances of the cranial pressure in ten patients suffering from epilepsy, depression, hysteria and encephalitis. Lumbar puncture was performed with the patient lying down and the pressure of the cerebrospinal fluid was measured with the patient sitting up, bent forward with the head raised. A 1.0, 0.2 or 0.5 per cent sodium chloride solution was injected, according to the results sought, and the pressure was measured again after from five to twenty minutes. The patients bore an increase in pressure of from 6 to 11 cc. and a decrease of from 5 to 15 cc. without any disturbances. The largest amount injected was 400 cc. of hypotonic or 250 cc. of hypertonic solution. Injections of hypotonic, hypertonic normal isotonic or Ringer's solution did not influence the blood pressure of the patient. The changes in pressure in the cranial cavity should consequently be considered as dependent on active secretion or absorption. The tissues show a tendency to maintain the osmotic pressure of the blood on the same level. With excessive osmotic pressure there is secretion of liquid into the blood, and with low osmotic pressure, absorption of fluid, which is secreted in the cranial cavity and absorbed by the brain tissue. The author recommends the use of the procedure in various conditions characterized by changes in intracranial pressure. Disturbances caused by alteration of pressure produced by lumbar puncture are relieved by intravenous injection of from 60 to 80 cc. of distilled water.

Norsk Magazin for Lægevidenskaben, Christiania

88: 97-192 (Feb.) 1927

Blennorrhagic Keratosis. H. C. Gjessing.—p. 97.
*Postoperative Jejunal Ulcers After Resection of the Stomach. J. Holst.—p. 111.
Hygiene in Trondhjem. H. Ouren.—p. 117.
Local Anesthesia in Gynecology. G. Schaanning.—p. 124.

Recurrent Postoperative Jejunal Ulcer After Extensive Resection of the Stomach.—Holst reports the case of a man, aged 23, with duodenal ulcer. Polya's operation was done. Nine months later perforation of a postoperative jejunal ulcer took place. The anastomosis together with 3 cm. of the fundus of the stomach and 15 cm. of the jejunum, including the perforation and the entero-anastomosis, was resected, leaving only one-third of the stomach intact. The amount of free hydrochloric acid and the total acidity were reduced. Eleven months after the second operation, a new jejunal ulcer perforated and was excised. Since this third operation, now a year ago, the patient has remained in good health. The case proves that resection of two-thirds of the stomach, including the pyloric part and entailing a considerable reduction of the gastric acid, does not prevent formation of postoperative jejunal ulcers.

Ugeskrift for Læger, Copenhagen

89: 129-148 (Feb. 17) 1927

Tumors and Legal Medicine. P. Møller.—p. 129. C'td.
*Treatment of Dementia Praecox with Metal Salts. P. J. Reiter.—p. 132.
Traumatic Anterior Dislocation of the Knee. E. M. Steenberg.—p. 136.
Capillary Pipets for Laboratory Use. H. Hansborg.—p. 139.

89: 149-164 (Feb. 24) 1927

Sodium Thiosulphate and Arsphenamine. A. Kristjansen.—p. 154.

Treatment of Dementia Praecox with Metal Salts According to Walbum.—In fifty cases of dementia praecox, Reiter employed Walbum's manganese treatment alone or combined with other forms of treatment. The author gives also a preliminary report of seventy-five similar cases treated with cadmium and cesium. The treatment seemed to influence the patients favorably, independently of the size of the dose. If after ten injections the patient showed psychic improvement or increase in weight, the treatment was continued with the same dose, if not, the dose was altered. In this manner it was possible to estimate the optimal concentration of the salt for each patient. From twenty to forty injections were given, and later the salt was given by mouth. If the metal salt treatment alone failed, it was combined with organotherapy or vaccine therapy or treatment by starvation.